



OAHU COMMUNITY CORRECTIONAL CENTER

MASTER PLAN REPORT VOLUME I: REPORT

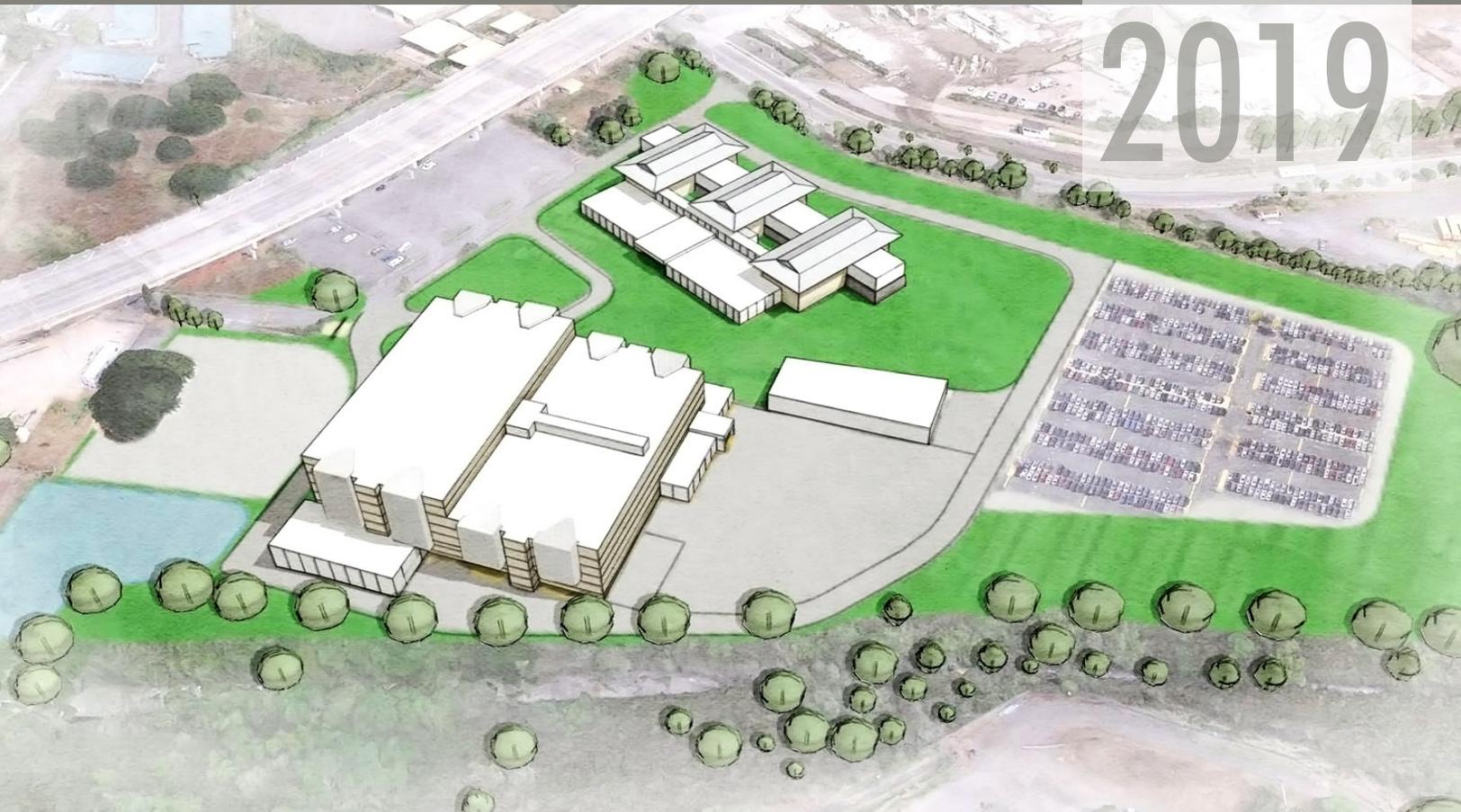
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ACRONYMS AND ABBREVIATIONS

A

ADA	Americans with Disabilities Act
ADP	Average Daily Population
AHL	Architects Hawaii Ltd.
AQS	Animal Quarantine Station

B

BGSF	Building Gross Square Feet
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C

CCC	Community Correctional Center
CF	Correctional Facility
CJPS	Criminal Justice Planning Services
CoPs	Certificates of Participation
CREC	Controlled Recognized Environmental Conditions

D

DAGS	Department of Accounting and General Services
DB	Design-Build
DBB	Design-Bid-Build
DBF	Design-Build-Finance
DBF+M	Design-Build-Finance with Long-Term Maintenance
DBFOM	Design-Build-Finance-Operate-Maintain
DLNR	Department of Land and Natural Resources
DOT	Department of Transportation
DPP	Department of Planning and Permitting

E

EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
ESA	Environmental Site Assessment

F

FDC	Federal Detention Center
FF&E	Furniture, Fixtures, and Equipment
FM	Finance Maintain
FY	Fiscal Year

G

GOs	General Obligation Bonds
GC/CM	General Contractor/Construction Manager
GMP	Guaranteed Maximum Price

H

HAR	Hawaii Administrative Rules
HCF	Halawa Correctional Facility
HREC	Historical Recognized Environmental Conditions
HRS	Hawaii Revised Statutes

I

IRS	Internal Revenue Service
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L

LUO	Land Use Ordinance
LWFC	Laumaka Work Furlough Center

N

NGO	Non-Government Organization
NSF	Net Square Feet
NPV	Net Present Value

O

OCCC	Oahu Community Correctional Center
OEQC	Office of Environmental Quality Control

P

PBI	Performance Based Infrastructure
PDR	Project Development Report
PER	Preliminary Engineering Report
P3	Public-Private Partnership
PRU	Plan Review Use
PSD	Department of Public Safety

R

REC	Recognized Environmental Conditions
-----	-------------------------------------

T

TIAR	Taffic Impact Analysis Report
TMK	Tax Map Key

Acronyms and Abbreviations

V

VfM Value for Money

W

WCCC Women's Community Correctional Center

WFC Work Furlough Center

Y

YoE Year of Expenditure

EXECUTIVE SUMMARY

This report details the proposed Master Plan for the replacement Oahu Community Correctional Center (OCCC) that is being planned by the State of Hawaii. The first section of the report provides a detailed look at the process of planning this new facility, the selection of the preferred site and the site's existing characteristics, and the preliminary design and layout of the facility itself. The second looks at the process by which the new OCCC complex may be financed, the anticipated cost and schedule of this construction effort, and how the State can make the most efficient use of their money. The sections include the following:

Part I: Master Plan for Selected Site

- Project Background
- Site Selection Process
- Analysis of Selected Site
- Master Plan for Selected Site

Part II: Comparative Alternative Project Financing Analysis

- Project Financing Overview
- Anticipated Cost and Schedule
- Value for Money Analysis

This report has been prepared by the Consultant Team on the behalf of the Department of Public Safety (PSD) and the Department of Accounting and General Services (DAGS). The data provided in this report, coupled with the information presented in the Project Development Report (PDR) and the Final Environmental Impact Statement (EIS) should provide the State of Hawaii with the background necessary to move this important project forward into design and construction.

PART I: MASTER PLAN FOR SELECTED SITE

Project Background

To understand the necessity of building a new OCCC, it is important to examine the responsibilities of PSD, and how OCCC fits into Hawaii's incarceration system. Chapter 1 of the Master Plan looks at the history of the OCCC facility and why, because of the overcrowding, deterioration, and lack of essential programs, replacement is crucial at this time. Key objectives of building the new OCCC include accommodating the current and future male detainee population, improving living conditions for detainees, and providing a more secure and efficient work environment for corrections staff. Additional objectives are also discussed in this chapter.

OCCC does not operate independently, instead functioning as part of a statewide incarceration system. This chapter also looks briefly at other elements operating within this system, including crucial PSD facilities on Oahu such as the Halawa Correctional Facility (HCF), the Women's Community Correctional Center (WCCC), and the Laumaka Work Furlough Center (LWFC). While physical improvements to the other PSD prisons and furlough centers are not part of the new OCCC project, there may be impacts on the operations of each facility. This includes moving the female jail population from OCCC to WCCC and providing additional furlough beds at the new OCCC pre-release facility. The new facility will be located very close to the existing HCF, so there may be an increased possibility to share resources in the future. It is important to note that the new OCCC will not address any of the overcrowding issues that HCF is currently experiencing, nor will it return any inmates from the mainland prisons temporarily housing them.

Two additional facilities not operated by PSD will be impacted by this work: the Federal Detention Center (FDC) at the Daniel K. Inouye International Airport, and the Animal Quarantine Station (AQS) in Halawa. Situated on the selected OCCC site, the AQS will need to be relocated prior to construction of the new OCCC facility. A number of existing OCCC inmates are currently held at the FDC; these inmates are expected to be moved to the new OCCC once complete.

Site Selection Process

A key step in developing the Master Plan for the new OCCC was the selection of a suitable site. Choosing the best site option for developing a new OCCC will ensure that Hawaii's criminal justice system continues to function in a high quality manner while addressing the need for modern, efficient, and cost effective institutions. From the start of the planning effort in 2016 until late 2017, the OCCC Project Team undertook an effort to identify, screen, and evaluate potential sites for the new replacement OCCC facility to select a preferred location. The details of this effort, and the ultimate conclusions, are discussed in Chapter 2 of this Master Plan Report. Sections covered in this chapter include:

- Understanding of the specific site screening criteria used for site identification and evaluation;
- Identification of the 12 prospective sites that composed the potential site inventory for the proposed OCCC;
- Pros and cons of each of the final 4 sites, which were examined further in the Draft EIS and Final EIS; and
- Rationale for selecting the Animal Quarantine Station site as the preferred site for relocation of OCCC.

To identify potential OCCC development sites, the Consultant Team engaged the Oahu real estate community, government agencies, public and private land owners, and the public. Through this, an inventory of 12 prospective sites was assembled, assessed, scored, and ranked. PSD was then able to select four final sites that were most suitable for

the development of OCCC, eliminating the sites that were inadequate. The top four sites were:

- Animal Quarantine Station site in Halawa;
- Halawa Correctional Facility site in Halawa;
- Mililani Technology Park site in Mililani; and
- Existing OCCC site in Kalihi.

These four sites were thoroughly evaluated in the Draft EIS, including an examination of existing site conditions and potential impacts (environmental, social, economic, etc.) of constructing the new OCCC at each location. The Draft EIS revealed the selection of the Animal Quarantine Station site as the preferred site for development of a new OCCC.

Analysis of Selected Site

On August 28, 2018, Governor David Ige announced that the Animal Quarantine Station site in Halawa will be the location for development of the new OCCC. The announcement coincided with the release of the Final Environmental Impact Statement (EIS) which documented the long standing need for a new OCCC and the rationale for the Animal Quarantine Station site as the location for its development. Formal selection of this site allowed the Project Team to continue forward with in-depth analysis of the existing conditions of the AQS site.

Chapter 3 reviews key characteristics of the AQS site. Important points reviewed include:

- Site ownership: the AQS rests on approximately 35 acres in Halawa Valley, distributed across five tax map key (TMK) parcels and two additional parcels without assigned TMKs. These parcels are owned and/or operated by the Hawaii Department of Agriculture (HDOA), the Hawaii Department of Transportation (HDOT), and the U.S. Navy.
- Current site occupants: the primary occupant of the AQS is the HDOA's Animal Quarantine Station. Additional tenants include the U.S. Army, the Hawaii Department of Health (HDOH), the USDA, and the DLNR.

- Site access conditions: vehicular access to the site is provided via Halawa Valley Street. Road ownership information for roads surrounding the AQS is illustrated, and current road conditions and public transportation is reviewed in this section.
- Existing infrastructure: this chapter evaluates the various infrastructure concerns for the site, including existing grading, stormwater drainage, water supply, wastewater collection, and electrical/telecommunication conditions.
- Potential site contamination: the results of a Phase I Environmental Site Assessment (ESA) are discussed. Although there are some site conditions to be aware of when site layout is considered, no action is recommended at this time.

Master Plan for Selected Site

The OCCC planning described in the chapters prior to Chapter 4 has culminated in the Master Plan for the selected AQS site as described in this Master Plan chapter. Over the course of the process, the Consultant Team was able to compile PSD preferences in facility sizing and layout, while simultaneously conducting a population forecast to determine appropriate facility capacity. This information allowed the team to generate a preliminary program for the new OCCC, which is summarized here in the Basis of Design section.

With an established program, and a selected site, a formal Master Plan could be produced. This chapter shows the evolution of the previously established program diagrams into functional department diagrams. As in the previous iterations of the building program, the program spaces are distributed into eleven distinct departments, which are as follows:

1. Administration
2. Visitation
3. Intake/Transfer/Release (ITR)
4. Intake Services Center (ISC)
5. Security Operations

6. Inmate Program Services
7. Medical/Mental Health Services
8. Food and Laundry Services
9. Physical Plant Operations
10. Inmate Housing (Male)
11. Male Pre-Release Facility

These diagrams have been assembled into preliminary building floor plans and positioned on the preferred AQS site. The AQS site is large enough that a mid-rise Detention Facility and low-rise Pre-Release Facility can be built as separate structures, constructed to the appropriate security standards. Anticipated site elements have been reviewed, as well as site security considerations and concerns.

Preliminary engineering analysis has also been performed for the site. The consultant engineers have analyzed the ability of the existing site to provide stormwater drainage, supply fresh water, collect wastewater, provide natural gas and electricity, and deal with increased traffic, along with other key development concerns.

PART II: COMPARATIVE ALTERNATIVE PROJECT FINANCING ANALYSIS

Project Financing Outline

Before design and construction of the new OCCC facility can begin in full, the State must determine how the project will be paid for. This requires deciding between public and private financing, and between traditional and innovative financing, based on a variety of legal, financial, and political concerns. Chapter 5 outlines a variety of key financing concerns that the State will face when making these decisions. Key financing options discussed in this chapter include:

- Conventional public financing options. These are the typical means of financing institutional construction projects. Conventional options discussed are:
 - “Pay as you go”
 - Standard government bonds

- Alternative bond and revenue generation instruments. This section looks more closely at bonds and alternatives to standard bonds, and also discusses alternative methods of generating revenue by the State. Items discussed are:
 - General obligation bonds
 - Revenue bonds
 - Sales tax
 - Sale of state assets
 - Certificates of participation
- Public-private partnerships. These collaborations between government and private entities provide an alternative method to share risks, responsibilities, and rewards for a given project. Options include:
 - Private-finance-build-transfer
 - Design-build-finance
 - Performance based infrastructure
 - Developer finance
 - Lease/purchase

Choosing a preferred method of financing this facility will require the State to weigh the various advantages and disadvantages of each alternative financing option. To assist in this, a summary of some of the key pros and cons are provided in this chapter, as well as the conditions under which it might be appropriate to consider a P3 financing plan.

Anticipated Cost and Schedule

To aid the project team in the planning process, and to provide the State of Hawaii with an understanding of potential expenses associated with the development of a new OCCC, cost estimates were performed a number of times during the planning process. These estimates include the following:

- Initial Estimates: February 2017
- Cost Estimates for Shortlisted Sites: September 2017
- Cost Estimate for Preferred Site: April 2018

The most current estimates are from April 2018, which apply the approved program and building concept to the preferred site, the Animal Quarantine Station site in Halawa. This estimate anticipates a construction cost of \$485 million for a mid-rise detention facility and low-rise pre-release facility on this site. This estimate includes the cost of the building itself, cost of site work, and additional construction expenses, as well as estimates for construction phasing, design and project management costs, and contingency. It does not include fees for site acquisition, project financing, or taxes and legal fees. Further information on what is included can be found in the cost information appendix included with this report.

The cost of construction only represents a fraction of the lifetime cost of a building. In a 30-year jail life cycle, maintenance, salaries, and expenses related to inmate care greatly overshadow construction expenses. Because of this, opportunities for efficiencies in staffing and operating the future OCCC facility have been carefully looked at to begin to estimate long-term cost savings. The current OCCC is staffing and cost inefficient compared to today's newly designed jails. A replacement facility as described in this Master Plan will increase safety of staff, inmates, and the public while producing significant savings in operating costs. It is not possible to calculate the full savings in operating costs until the building design is complete; however, since most of the operating costs are in security staffing, and most of the security staffing is related to the housing module configuration, potential savings can be estimated at this time. It is anticipated that savings of at least \$3.8 million and as high as \$4.8 million annually are likely. This translates to between \$115 million and \$143 million over a 30-year facility life cycle.

A project planning schedule has also been developed to help the State estimate the planning, design, and construction timeframes anticipated for completing the new OCCC facility. This can be found in Chapter 6 of this report, along with potential impacts to the schedule and construction phasing possibilities. The goal of the schedule in its current form is to provide a broad outline for the major events that will occur in the course of

the project, and not, at this point, to establish firm dates or definitive durations. These will depend a great deal on the project delivery method selected by the State. Other key factors include the time it takes to get project approval, secure financing, and select a project team, as well as any phasing considerations.

Value for Money Analysis

A Value for Money (VfM) analysis compares the total costs of delivering an infrastructure project using different forms of procurement. Its purpose is to help identify which procurement approach for a given project delivers the greatest value for the public sector. Chapter 7 focuses on this analysis, providing an assessment that considers the estimated risk-adjusted costs of delivering the OCCC project using different procurement options that result in distinct financing, ownership, and implementation approaches, and varying levels of private involvement. The procurement approach that results in the lowest cost – lifecycle costs and risks considered – would deliver the most “value for money” and therefore, the most benefit to the public sector (in this case the State of Hawaii).

The VfM analysis identifies which financing and project delivery options are applicable, given the various legal, financial, and political factors, such as the nature and scale of the project and the fiscal health of the public entity sponsoring its construction and operation. These four primary options considered are:

1. Design-Bid-Build (DBB)
2. Design-Build (DB)
3. Non-Profit Design Build Finance with Long-Term Maintenance (DBF+M 63-20 – Lease)
4. Design Build Finance with Long-Term Maintenance (DBF+M – Availability Payments)

Chapter 7 describes and compares each of these four financing plan options, provides a qualitative evaluation of each, analyzes the associated risks, and discusses impacts to the schedule that each delivery option may have. This is followed by a detailed quantitative assessment via four sets of cash flow models as means to evaluate the Net Present Value (NPV) for each option.

The quantitative assessment which incorporates considerations for financing and timeline of design and construction indicate that the DBB option has the highest cost, followed by the DB option and the DBFM 63-20 option. The DBF+M (AP) delivery option is the least costly once all quantitative aspects of the analysis are considered. Compared to the DBB option, the DB option is 8% lower, the DBF+M 63-20 is 9% lower, and the DBF+M (AP) option is 16% lower.

In addition to the quantitative results, there are qualitative considerations to consider when selecting a project delivery method. These are summarized as follows:

- The DBFM options are attractive from a cost perspective assuming that the procuring agency receives the necessary support and assistance to guide it through the negotiating process in a timely fashion, along with the project management and oversight skills and resources to overcome the lack of experience with this procurement method.
- In addition to being the most expensive option in NPV terms, the DBB option may not be the best alternative for the OCCC project for the following reasons: (1) delays in schedule and associated cost increases as well as a longer period of time between procurement and construction completion; (2) the limited experience in procuring and delivering the construction of an entirely new facility, particularly one as large, complex, and costly as OCCC; and (3) the option provides little to no risk transfer and therefore virtually any issue comes at the full cost to the State of Hawaii.
- The DB option is less expensive than the DBB option after adjusting for risk and offers the following advantages: (1) the risk of cost overruns for design and construction is reduced once the two procurements are combined; (2) the procurement process is less complex than the DBFM procurements and only slightly more intricate than the DBB procurement; and (3) the DB option has lower financing costs than the DBFM option and higher risk transfer than the DBB option.

Based on a comprehensive Value for Money assessment, which takes into account quantitative and qualitative considerations, the DB option may be the most efficient alternative procurement for delivery of the OCCC project. However, with the proper support, technical assistance and resources, the DBFM options are attractive.

This Value for Money analysis is considered the first step in the process of evaluating the many complex aspects associated with delivering this important facility in a manner that benefits the people of Hawaii. The work to date represents a high-level analysis of a number of possible options for consideration by the State's financial, legal, and procurement specialists. This report does not offer a recommendation for a specific method of financing or delivery of the OCCC project. Each option presented requires further in-depth study that goes far beyond the limitations of this report and ultimately leads to the definitive solution.

1

PROJECT BACKGROUND

The Hawaii Department of Public Safety (PSD) is responsible for carrying out judgments of the state courts whenever a period of confinement is ordered. Its mission is to uphold justice and public safety by providing correctional and law enforcement services to Hawaii's communities with professionalism, integrity and fairness. PSD is relying upon aged and obsolete correctional facilities to carry out its mission and is proposing to improve its corrections infrastructure through modernization of existing facilities and construction of new institutions to replace others. Among PSD's priority projects is the replacement of the Oahu Community Correctional Center (OCCC) which, when constructed, will take advantage of the newest cost-saving technologies and improve correctional services and safety for inmates, staff, and the public.

OCCC is the largest jail facility in the State of Hawaii, housing pre-trial detainees and short-term sentenced inmates. In addition to its jail functions, OCCC provides reintegration programming for male sentenced felons through OCCC as well as the nearby Laumaka Work Furlough Center (LWFC). The current OCCC is out of date, inefficient and no longer meeting PSD needs. Outmoded design and site layout, such as guard towers and a perimeter fence line, make day-to-day operations of OCCC more difficult and costly than necessary (Figure 1-1). Laumaka also lacks additional capacity to support a growing demand for re-entry facilities. PSD is proposing to replace OCCC with a new modern facility which will include additional pre-release beds to lessen the burden on the existing LWFC.



Figure 1-1: *Guard tower at the existing Oahu Community Correctional Center.*



Figure 1-2: Aerial photograph of the Oahu Community Correctional Center, circa 1939.

1.1 EXISTING OAHU COMMUNITY CORRECTIONAL CENTER

The existing OCCC facility is located in the Honolulu neighborhood of Kalihi, sitting on an approximately 16-acre parcel at the southwest corner of Kamehameha Highway/Dillingham Boulevard and Puuhale Road. The facility serves the Island of Oahu and acts as the local detention center for the First Circuit Court. It currently houses both male and female inmates who have pretrial, sentenced, or community release status, and includes transition and re-entry housing and programs for inmates returning from in-state or mainland correctional facilities. A correctional facility has occupied this property since the early 1900s. Photographs dating to 1939 depict a territorial prison on the property, surrounded largely by vacant lands or lands in agricultural use (Figure 1-2).

Prior to 1975, OCCC was known as the Oahu Prison and served as the State's primary male prison facility. At that time, the First Circuit jail population was held at Halawa Jail (the current Halawa Special Needs Facility), which was operated by

the City & County of Honolulu (CCH). In 1975, operation of the jail system was relinquished by CCH to the State of Hawaii. At the time of this transition, OCCC was renamed from the Oahu Prison to the Hawaii State Prison and housed the State's Medium Security Prison population along with the First Circuit's jail population. Annex 1 to the old jail was completed at the time of the transfer. The facility was later renamed to OCCC and in 1980, the main jail building opened; it was fully completed and occupied in 1982. At that time, it was constructed as a 312-cell facility and was viewed as state-of-the-art. OCCC was considered a positive step in the development of facility design and operations as detention and corrections evolved from the historic telephone or intermittent surveillance custody and control model to a more modern, podular, direct supervision approach to care and custody. In 1987, construction of the Halawa Correctional Facility (HCF) was completed, which took responsibility for housing the State of Hawaii's male prison population. Since that time, OCCC has primarily functioned as a facility for pre-trial detention and short-term sentenced inmates (less than one year).

Since the opening of HCF, Hawaii's prison and jail inmate population has grown well beyond the system's capacity, and in this time no new facilities have been added to the system. Consequently, PSD has been forced to double-bunk cells, add beds to dorms without adding necessary support spaces, and convert spaces normally used for inmate programs and services to other functions, such as inmate housing, in order to cope with the increasing population. This overcrowding has also resulted in relatively high staffing patterns and associated operating costs, which is looked at in Appendix E. Additionally, facility deterioration has created less than ideal living conditions for inmates, as seen in Figure 1-3.

Devising the best option for developing new state detention and correctional facilities will ensure that Hawaii's criminal justice system and PSD continue to function in a high quality manner while addressing the need for modern, efficient and cost effective institutions for current and future inmate populations. Development of a new facility to replace OCCC will allow PSD to accomplish its mission to uphold justice and public safety, meet

the needs of current and future inmate populations, and provide for the continued security of inmates, staff, and island communities.

In addition to providing detention services for the island's jail population, OCCC also provides an important pre-release preparation/transition function for prison system inmates who have less than a year until their scheduled release. At OCCC, the pre-release population is only male; female pre-release is handled by the Women's Community Correctional Center (WCCC) in Kailua. The new OCCC will include a male pre-release facility which will provide opportunities for inmates who have a short time remaining in their mandated confinement before they are released back into the community. A high percentage of these individuals originate from HCF where they have served the majority of their sentence. Pre-release programs are currently offered at LWFC and OCCC's Module 20, which are both considerably undersized.



Figure 1-3: Example of existing cell at OCCC.

1.2 ASSOCIATED ELEMENTS

OCCC does not operate independently, instead functioning as part of a statewide incarceration system. While the primary goal of this project is to construct a new OCCC facility, a number of these other elements within the system will be directly or indirectly impacted by this project. This section provides a brief overview of these elements.

Women's Community Correctional Center

Owned by the State of Hawaii and operated by PSD via executive order, WCCC is located in the Kailua Ahupua'a, Ko'olaupoko District on 122 acres of land situated north of the Kalaniana'ole Highway and to the south and the east of Kailua High School (Figure 1-4). Located on the site of the former Hawaii Youth Correctional Facility (also called the Koolau Boy's Home), WCCC was constructed in 1952 on the windward side of Oahu, approximately 1.5 miles inland from Kailua Bay, in a largely undeveloped area of Maunawili. Three of the original housing buildings from the Hawaii Youth Correctional Facility remain in use. The current rated capacity for WCCC is 260 beds and the facility routinely operates at full capacity.

WCCC is the only all-female incarceration facility in Hawaii, providing for the long-term care and custody of female sentenced felons. Female pretrial detainees and inmates sentenced to terms of one year or less on Oahu are currently housed at OCCC.

PSD plans to relocate female detainees currently housed at OCCC to WCCC to equitably address the programmatic needs of the Oahu female jail population. This will require the reconfiguration or expansion of the existing WCCC to accommodate all adult women offenders who are housed on Oahu. The planning, design, and construction associated with this WCCC expansion is not considered a part of this OCCC planning effort. However, because it is a related action, a number of aspects of the proposed WCCC expansion have been considered. A 10-year inmate forecast for the female inmates was performed along with the male inmate forecast; this can be found in Appendix A. It was also deemed necessary to study environmental impacts on the existing WCCC site as part of the EIS effort to ensure compliance with Hawaii's environmental regulations (HRS 343). These are described in the Final EIS published on July 8, 2018.

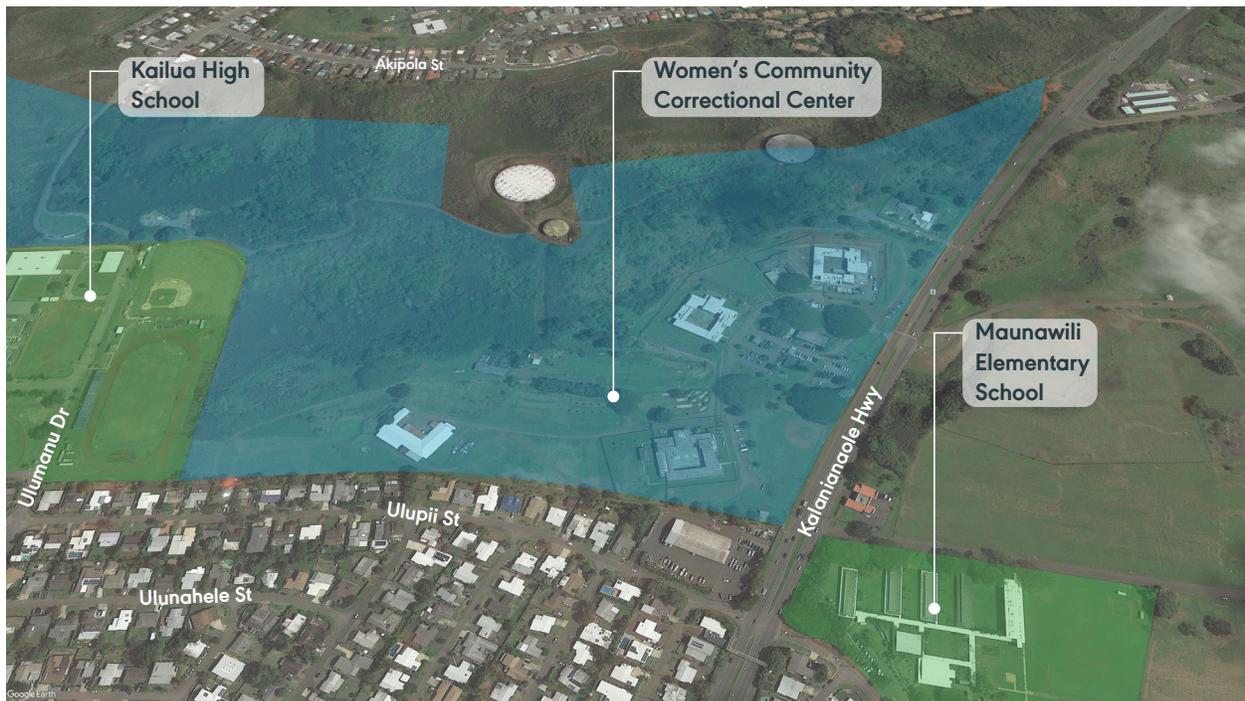


Figure 1-4: Existing Women's Community Correctional Center located in Kailua.



Figure 1-5: Entrance to the Laumaka Work Furlough Center in Kalihi.

In addition to the proposed additional housing at WCCC, PSD has plans to:

- Expand programs and opportunities for family visitation
- Demolish the Administration Building and replace it with a new facility in a different location at WCCC
- Renovate Hookipa Cottage
- Demolish the current warehouse/storage building and replace with a new warehouse/storage building
- Demolish the current greenhouse and replace with a new, expanded greenhouse
- Reconfigure and expand on-site parking
- Demolish the current gatehouse and relocate and replace it with a new structure in a different location at WCCC

An overview of the potential program and site layout can be found in Appendix C of the previously mentioned OCCC Final EIS document.

Laumaka Work Furlough Center

LWFC, as seen in Figure 1-5, is also operated by PSD. LWFC has 96 beds and is located approximately one block from the existing OCCC facility in Kalihi. Inmates who are assigned to LWFC are either actively seeking employment or working in the community. LWFC, along with Module 20 at OCCC, is a partial confinement facility that provides pre-release programs for male inmates, which include community corrections, day reporting and work furlough.

Contrary to the male detention population which has been decreasing over time, the male pre-release population has been increasing. Current and projected inmate pre-release populations are examined as part of the 10-year inmate forecast as shown in Chapter 4. As previously described, the new OCCC facility will have a pre-release function, sized large enough to account for the future pre-release population growth. However, the existing LWFC is favorably located with respect to job opportunities, transportation services, and inmate support services. Because of this, it is assumed that the existing LWFC in Kalihi will remain operational at 96 beds.

PSD expects to expand the LWFC in the future; however, at this time only the existing 96 beds have been considered when distributing the total number of planned pre-release beds. Any potential renovations or expansions to LWFC are not considered part of this OCCC planning effort.

Animal Quarantine Station

Following a lengthy siting process (see Chapter 2 for review of this process), the Animal Quarantine Station (AQS) site has been selected by Governor Ige as the location for development of the replacement OCCC. Among the many roles and responsibilities of the Hawaii Department of Agriculture (HDOA) is protecting and enhancing the vitality of Hawaii's agriculture and aquaculture resources. The HDOA carries out its responsibilities by focusing on preventing the introduction and establishment of certain plants, animals, and diseases that would be harmful to Hawaii's environment. All animals traveling to Hawaii are required to have specific documentation of vaccinations against rabies and other diseases, and are subject to quarantine if they fail to meet

certain necessary requirements. Integral to Hawaii's success protecting public health and the environment is HDOA's AQS, located in Halawa.

The existing AQS includes the Animal Quarantine Headquarters building and approximately 1,700 kennels used to quarantine cats and dogs arriving in Hawaii. The AQS has facilities that are able to confine all animals traveling to Hawaii, ranging from household pets to large animal species, in order to protect Hawaii's status of being rabies free. However, due to advances in rabies science, and subsequent changes in policies over the past several decades, the need to confine animals at AQS has decreased considerably (Figure 1-6) such that the current AQS is no longer meeting the needs of the HDOA. At this time, HDOA is proposing to replace the current out of date AQS with a modern version that supports Hawaii's current and projected animal quarantine policies and needs. HDOA leadership has been a willing partner in the OCCC planning effort as they are already looking forward to planning for a new, more efficient quarantine station.



Figure 1-6: Empty kennels at the Animal Quarantine Station.

For the AQS site to be a suitable option for the new OCCC, the existing AQS facility will need to be consolidated and replaced with a new HDOA AQS located elsewhere. One location under consideration for this new facility is on the western portion of the existing AQS site. As with the proposed OCCC project, the potential environmental impacts of relocating the AQS must be analyzed and addressed. To avoid segmenting the EIS process, and to reduce the timeframe of relocating the AQS, the OCCC EIS addressed the need for a new AQS facility, its removal, and its possible relocation and replacement within the HDOA property. Specific objectives for the proposed AQS project include:

- Construct modern AQS that supports Hawaii's current and projected animal quarantine policies and needs;
- Consolidate animal quarantine operations to a more appropriate and manageable scale given the reduced animal quarantine requirements; and
- Make available 25 acres of underutilized state owned land.

Site studies, estimated space requirements, and a conceptual plan of the proposed AQS

development were provided with the OCCC EIS, and can be found included here as Appendix B. However, the formal programming and design of the proposed new AQS are not considered part of this OCCC planning effort.

Halawa Correctional Facility

HCF is made up of two separate facilities: a special needs facility and a medium-security facility. The special needs facility opened in 1962, as the CCH Halawa Jail, and was transferred to the State of Hawaii's control in 1977. The special needs facility houses maximum and close custody inmates, inmates with severe/chronic mental illnesses who cannot be placed in the general population, and inmates who require protective custody. The medium security facility, which houses male sentenced felons, opened in 1987 and is the newest and largest prison facility in the State of Hawaii (see Figure 1-7).

In addition to the correctional population housed in state facilities, Hawaii has found it necessary to contract for prison beds on the mainland due to lack of suitable space in the islands. Contracting for beds on the mainland began in 1995 when 300 male prison inmates were transferred to



Figure 1-7: Existing Halawa Correctional Facility located in Halawa.



Figure 1-8: *The Federal Detention Center located in Honolulu.*

facilities in Texas. Additional transfers followed in 1997 with 236 male and 64 female inmates, and have continued since then. As of May 2017, there were approximately 1,700 State of Hawaii prison inmates housed in facilities on the mainland, now primarily held in Arizona. If the mainland prison inmates were to be housed in Hawaii, the demand for beds would total approximately 5,500 (PSD, 2017).

One of the sites that was considered for the new OCCC was the undeveloped five-acre portion of the 31-acre HCF property; however, as this was not selected as the preferred site, this master plan does not show any planned development on this property. No renovations, improvements, or expansions to HCF are part of this OCCC planning effort. Regardless of the selected OCCC site, because of the fundamental differences between jail and prison housing and programming, the OCCC replacement facility will not address any of the State's prison overcrowding issues.

Federal Detention Center in Honolulu

The Federal Detention Center (FDC) is a high-rise federal jail facility (Figure 1-8) located immediately adjacent to the Daniel K. Inouye International Airport in Honolulu. This facility is operated by the Federal Bureau of Prisons, and holds male and female inmates awaiting federal trials or serving short term sentences for federal crimes. It is not run by PSD, nor is it under the oversight of the State of Hawaii. However, the State of Hawaii has been leasing beds from the FDC for over a decade to address overcrowding issues at OCCC. At one time the FDC held as many as 300 OCCC inmates; as of November 2017, the count was 127. It is expected that once the new OCCC is operational all State of Hawaii jail inmates held at the FDC will be transferred to the new OCCC facility, and the State will no longer need to lease these beds.

2 SITE SELECTION PROCESS

A key step in planning and developing a new community correctional center is the selection of a suitable site. From the start of the planning effort in 2016 until late 2017, the OCCC Project Team undertook an effort to identify, screen, and evaluate potential sites for the new replacement OCCC facility to select a preferred location. The details of this effort, and the ultimate conclusions, are discussed in the following pages.

2.1 SITE IDENTIFICATION AND INITIAL EVALUATION

To provide equal and unbiased consideration of all areas of Oahu, the entire island was looked at as a potential location for the proposed OCCC. Alternative sites that could meet some or most of the key OCCC facility siting criteria anywhere on Oahu were considered as possibilities. However, it was recognized that there are portions of Oahu that are more preferable for locating the new OCCC facility. Therefore, a preferred search area was considered; sites within this area were favored over sites beyond the preferred search area (although sites outside the search area were still subject to consideration).

The basis for the preferred area included proximity to the following:

- Residences of existing OCCC staff
- Major transportation networks (highway, bus service, future train line)
- Friends, family, and volunteers
- Courthouse and associated infrastructure
- Medical facilities

After review, the preferred area was identified as encompassing portions of Greater Honolulu, East Oahu, West Oahu, and Central Oahu areas, as shown in Figure 2-1. The preferred site search

area criteria and methodology is more thoroughly explained in the OCCC Final EIS in Appendix E: Alternatives Analysis Report.

Site Screening Criteria

To determine initial viability of the sites in the OCCC inventory, it was necessary to screen each against an established set of siting criteria. To avoid the time and effort of conducting in-depth evaluations of a large number of potential sites, a site screening tool was used to compare and assess site conditions and characteristics against the siting criteria. Information concerning the initial inventory of sites was gathered and analyzed for the following traits:

- Proximity to OCCC workforce, visitors, medical facilities, and legal services and court facilities
- Land area and topography
- Environmental and historic resources including wetlands, cultural, historic and Native Hawaiian resources, threatened and endangered species habitats
- Hazard avoidance including floodplains and tsunami evacuation zones

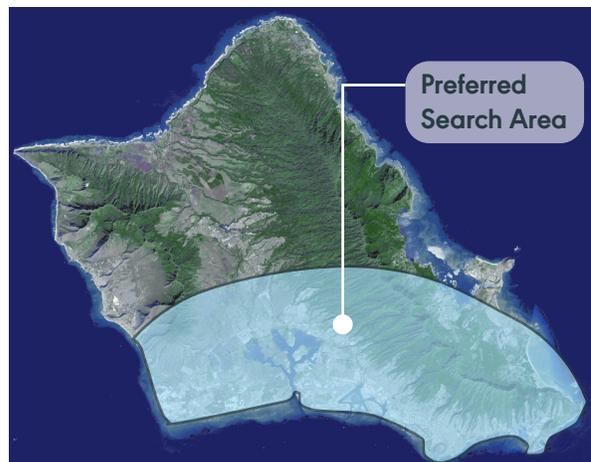


Figure 2-1: Preferred search area for OCCC.

- Highway access and public transit services
- Utilities including water supply, wastewater treatment, electric power, natural gas and telecommunications services
- Community services including fire protection and EMS, adjoining and nearby land uses
- Community acceptance

These categories are represented graphically in Figure 2-2, along with relative importance or weighting of each assigned during the site screening and evaluation process. All prospective sites were assessed, scored, and ranked to quickly and efficiently identify sites that most closely adhered to PSD’s siting criteria. This allowed PSD

to advance sites judged most suitable for detailed evaluation as part of the Draft EIS preparation phase, while removing the rest.

The results of the analysis for each site was summarized and presented on a Site Screening Scoring Matrix. The matrices included the screening criteria, indicators used to assess sites conditions against the criteria, notes that provided the basis for the analysis and point scores for each criterion. Scores were totaled for each site and used to compare against other sites. Once all screening criteria were assessed for each prospective site, the sites were rated, scored, and ranked as shown in Table 2-1 on the following page.

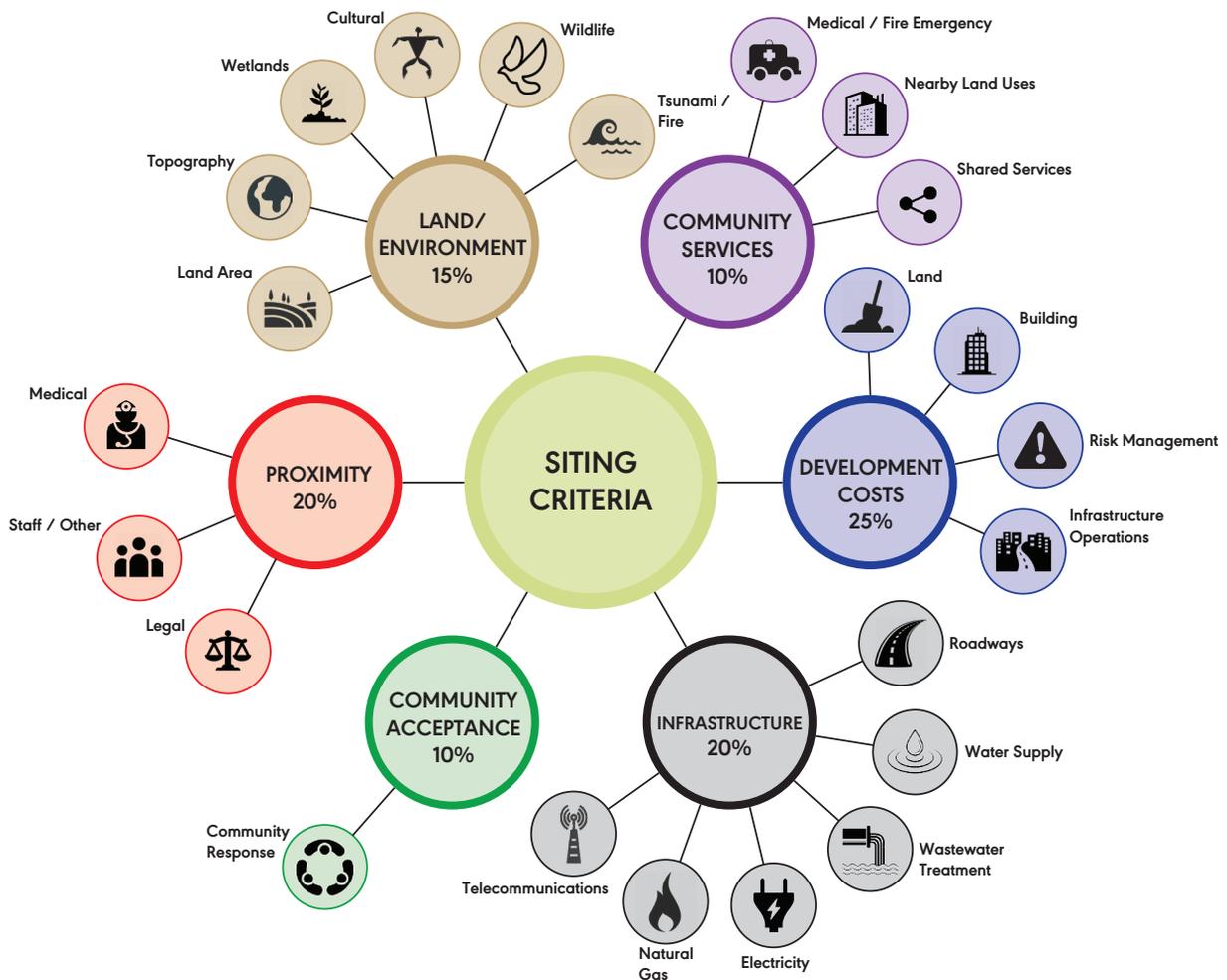


Figure 2-2: Specific criteria used for the OCCC site screening process.

Site Inventory

Concurrent with establishing the initial facility and siting requirements, the Project Team conducted outreach to identify prospective sites for development of a new OCCC. Over these months, the OCCC Project team engaged the Oahu real estate community, government agencies, public and private land owners, and the public to identify and offer potential OCCC development sites. To allow greater flexibility in site layout and building footprint, a minimum site area of 10 acres was initially requested on the Site Offer Form distributed to the public. This initial site search effort allowed the team to assemble an initial inventory of 11 sites for consideration:

- Current OCCC site (Kalihi)
- Halawa Correctional Facility site (Halawa)
- Animal Quarantine Station site (Halawa)
- Kalaeloa Parcel B site (Kalaeloa)
- Kalaeloa Parcel C site (Kalaeloa)
- Kalaeloa Parcels 6A/7 site (Kalaeloa)
- Kalaeloa Parcels 18A/18B site (Kalaeloa)
- Barbers Point Riding Club site (Kalaeloa)
- Mililani Technology Park Lot 17 site (Mililani)
- Waiawa Property 1 site (Waiawa)
- Waiawa Property 2 site (Waiawa)

Subsequent discussions with members of the State Legislature emphasized the need to ensure that no potentially suitable site was overlooked. Therefore, other alternative sites that were considered as part of earlier efforts to develop a new OCCC were reviewed and analyzed as to their availability and applicability in 2017. Given the similarities between the purpose, function, and scale of the FDC and the proposed OCCC, alternative sites that were considered as part of efforts to develop the FDC in the 1990s were also reviewed and analyzed as to their availability and applicability in 2017. Additional sites examined included the following:

- Liliha Civic Center
- Ali'i Place, Downtown Honolulu
- Other downtown Honolulu locations
- Sites at the Daniel K. Inouye International Airport
- Puuikena Drive
- Other State-owned lands

Each of these sites was examined, but ultimately found to be unsuitable for development of the new OCCC.

Finally, to further expand upon the universe of alternative OCCC sites, the minimum OCCC site size threshold was revised downward from 10 acres to one acre. The team re-issued the Site Offer Form

Site Rankings			
Site Location	Site Name	Score	Rank
Halawa	Animal Quarantine Station	79	1
Kalihi	Oahu Community Correctional Center	76	2
Halawa	Halawa Correctional Facility	58.5	3
Mililani	Mililani Technology Park Lot 17	57	4
Kalaeloa	Kalaeloa Parcels 18A/18B	51.5	5
Waiawa	Waiawa Property 1	50.5	6
Waiawa	Waiawa Property 2	46.5	7
Kapolei	Campbell Industrial Park Site	43.5	8
Kalaeloa	Kalaeloa Area Parcel B	41.5	9
Kalaeloa	Kalaeloa Parcels 6A/7	37	10
Kalaeloa	Kalaeloa Barbers Point Riding Club	36	11
Kalaeloa	Kalaeloa Area Parcel C	31.5	12

Table 2-1: Final site score and rank for all twelve potential OCCC sites.

to the Oahu real estate community, government agencies, public and private land owners, and the public, with a requested minimum site size of one acre. This reopening of the site added one new site to the inventory, located in Kapolei’s Campbell Industrial Park, which brought the total of potential sites to 12. Each of the 12 sites was screened against the established criteria; the results are shown in Table 2-1 on the previous page.

2.2 DESCRIPTION OF FOUR ALTERNATIVE SITES

With completion of the site screening process, PSD was able to remove the less suitable sites from further consideration, leaving four preferred sites to advance further through the in-depth study process. This information was publicized in the Progress Report released to the Hawaii State Legislature on February 2, 2017. The reduced list allowed PSD and the public to focus attention on the four preferred sites, each of which was included in the subsequent EIS study phase. These sites were as follows:

- Current OCCC site (Kalihi)
- Halawa Correctional Facility site (Halawa)
- Animal Quarantine Station site (Halawa)
- Mililani Technology Park Lot 17 site (Mililani)

The Draft EIS, which was released on November 8, 2017, provided an in-depth evaluation of all factors related to constructing and operating a new OCCC facility on each of the four alternative sites, and declared the Animal Quarantine Station site as the preferred location for the new facility. The following is a brief summary of each of the four preferred sites. For a more detailed description highlighting the important advantages and disadvantages of each of the four alternative site options, as well as the expected environmental repercussions of development at each site option, refer to the published EIS documents.

Current OCCC Site

As noted in Chapter 1, the existing OCCC is located in the Kalihi neighborhood of Honolulu, situated northwest of Chinatown and downtown Honolulu (Figure 2-3). This site is owned by the State of Hawaii (DLNR is the fee title owner) and

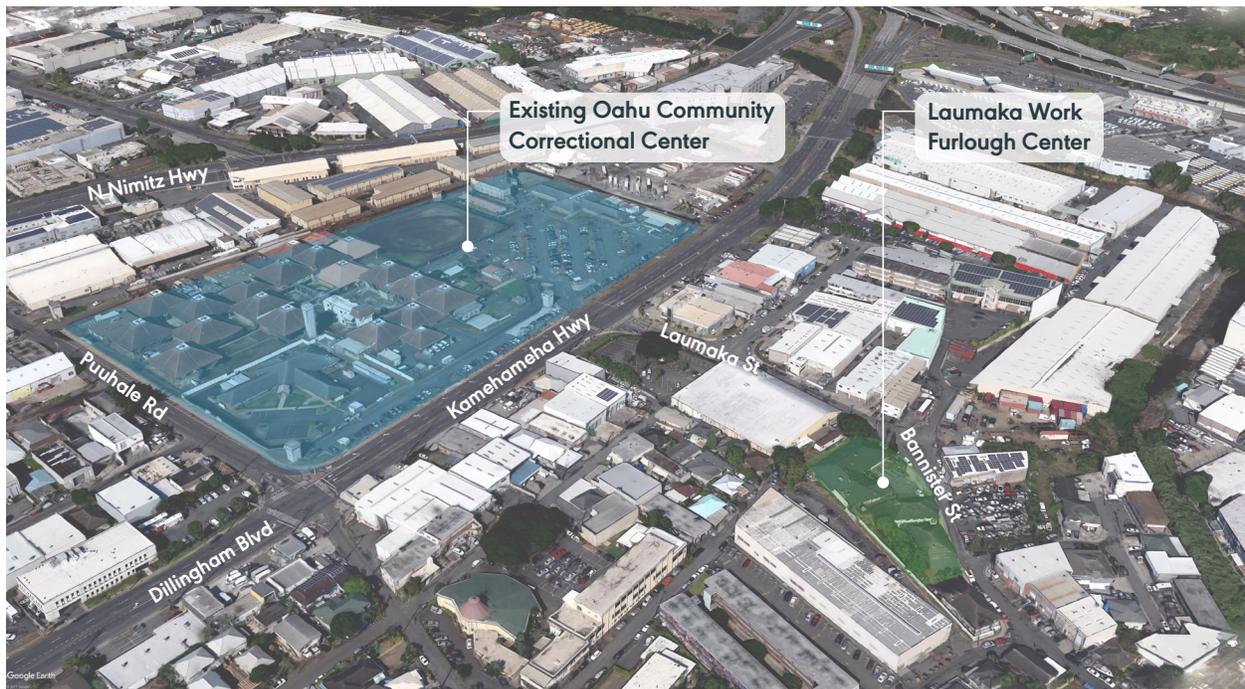


Figure 2-3: Location of the existing OCCC in Kalihi.

is operated by PSD via executive order. Prior to the commencement of the site search, the State Legislature requested that this site be evaluated for suitability in replacing OCCC with an entirely new facility on its current location. It is also a requirement of Chapter 343, HRS (EIS process) to consider the No Action Alternative (or status quo), which is maintaining OCCC at its current location.

This site has housed various correctional facilities for over 100 years, and the present-day community that has developed around the facilities includes support functions and social services necessary for successful jail operation. The site is also closest to the courts, as well as the jobs that the work furlough inmates travel to each day. However, transit-oriented development (TOD) is moving into the Kalihi neighborhood in anticipation of the arrival of the Honolulu Authority for Rapid Transit (HART) rail system and two of its transit stations, and the neighborhood is poised for community enhancing development. The 21st Century Kalihi Committee, established by the State of Hawaii, suggests that the State has priorities for the site that are inconsistent with a continuing correctional facility presence.

The difficulties of constructing a new jail on the same constrained site as the existing jail maintaining jail operations during construction will require complex development phasing. If the replacement OCCC were to occur on the current site in Kalihi, then approximately 300 male detainees would need to be temporarily relocated to the HCF site, after temporary housing was constructed. This would allow a portion of the property occupied by several inmate housing units to be cleared, making way for the first phase of new OCCC construction. The temporary housing would be medium-security and would hold inmates securely during the construction phase.

Developing the Kalihi site would be the most challenging – and the most expensive – of the four, providing a strong incentive to consider other options.

Animal Quarantine Station Site

The HDOA AQS is located at 99-951 Halawa Valley Street in Halawa, Hawaii, not far from HCF. The approximately 35-acre property (Figure 2-4) is owned by the State of Hawaii, which acquired it

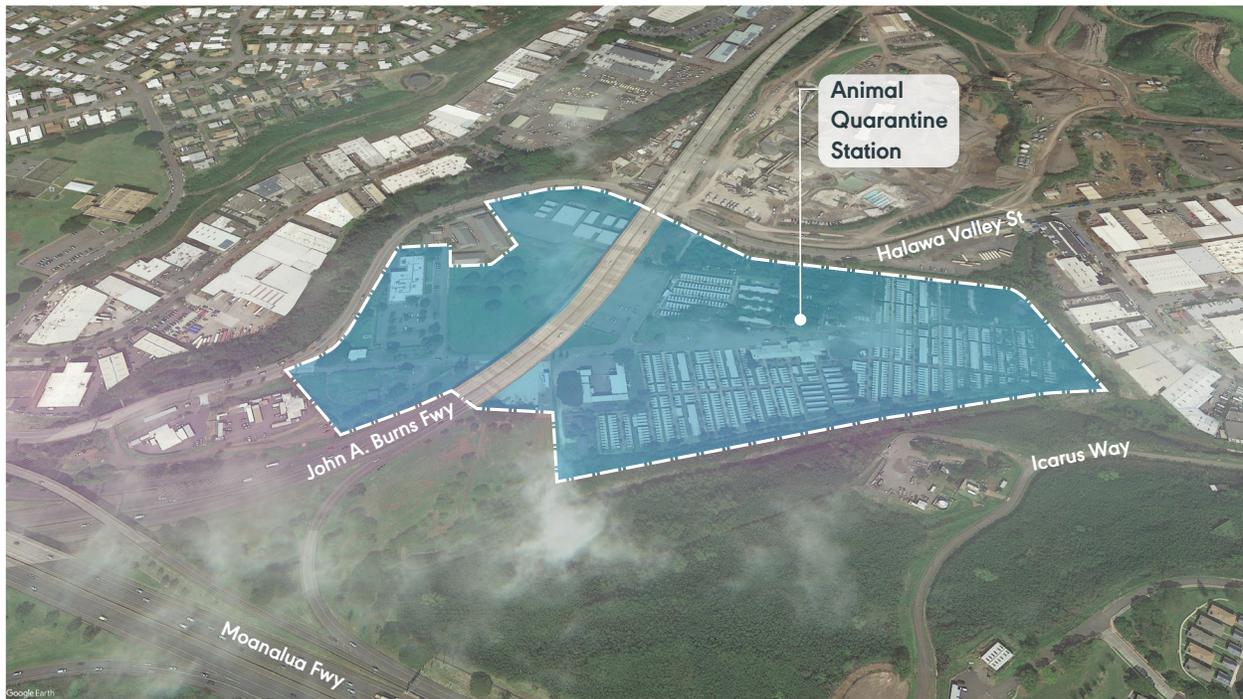


Figure 2-4: Location of the HDOA AQS site in Halawa.

in 1968 from the U.S. Navy. Records show that the U.S. Navy first owned the property in 1941; prior to this, it was owned by the Emma Kaleleonalani Estate. Historical aerial photos taken in 1944 and 1952 show various structures on the property, including in the vicinity of the present-day parking lot. The buildings were subsequently demolished and the AQS was constructed in 1968. For further discussion on the existing Animal Quarantine Station, refer to Chapter 1 of this report, as well as Appendix B.

The AQS site option was favorably received; resident opposition was minimal, and limited primarily to concerns about possible traffic impacts.

Halawa Correctional Facility Site

HCF occupies approximately 31 acres in Halawa Valley at 99-902 Moanalua Road (Figure 2-5) and has been used for correctional purposes since 1991; see Chapter 1 for further discussion about the role of HCF in the Hawaii correctional system. The area at HCF that was considered for the new OCCC was the undeveloped five-acre portion in the northeast corner of the 31-acre tract. The Governor and State

Legislature recommended that PSD evaluate the potential for future OCCC development at the site.

The HCF site was a viable option for a number of reasons. It is owned by the state, and is currently controlled by PSD, eliminating most land acquisition concerns. The site is located less than a mile from the AQS site, so it claims similar positive aspects of location and existing available roadway and utility infrastructure. The notable concern associated with this site was that locating the future OCCC here would consume virtually all remaining developable land available at HCF. This would largely eliminate the ability to expand the existing prison in the future, thus making it more difficult for PSD to accomplish bringing home many of the prisoners currently housed in private correctional facilities located on the mainland. Site constraints (primarily size and topography) would also make OCCC development here more complex and, therefore, more expensive (i.e., the facility would have to be a high-rise building with structured parking, etc.).

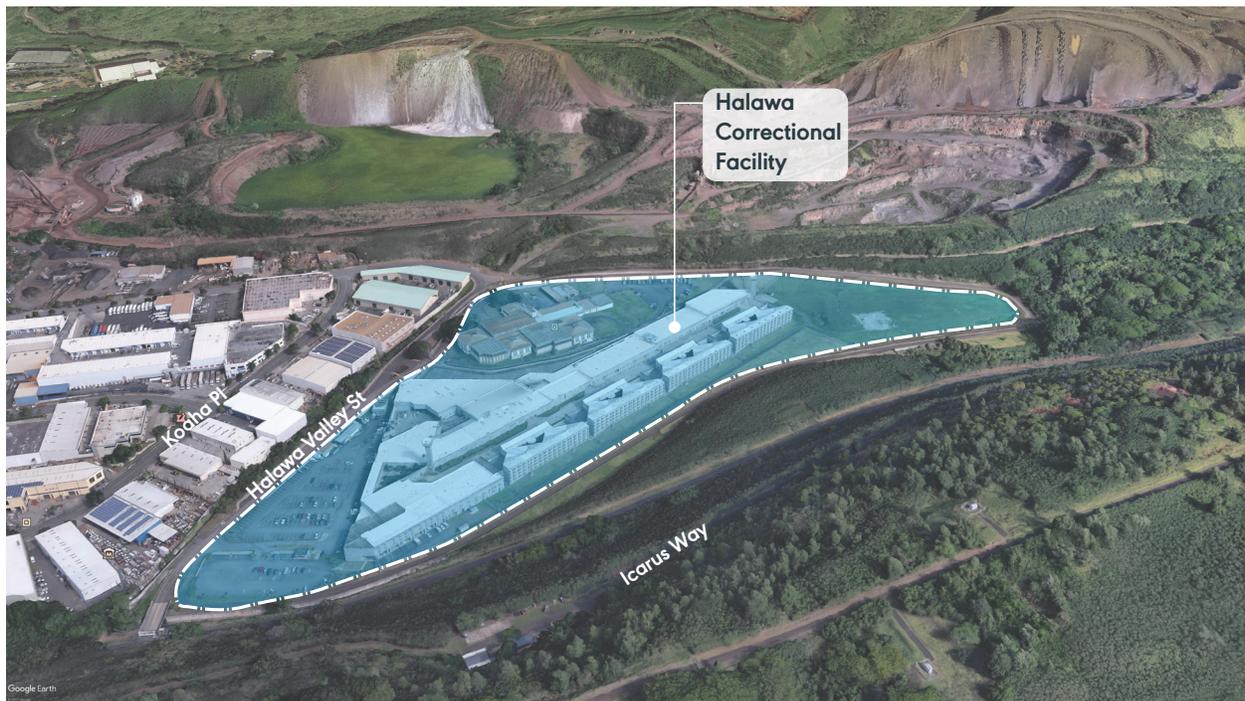


Figure 2-5: Location of the existing Halawa Correctional Facility in Halawa.



Figure 2-6: Mililani Technology Park Lot 17 site located in Mililani.

Mililani Technology Park Lot 17 Site

The Mililani Technology Park Lot 17 site comprised approximately 40 acres – about half of which was considered suitable for OCCC development – representing an unimproved portion of Phase I of the Mililani Technology Park in the Central Oahu neighborhood of Mililani (Figure 2-6). This proposed site is identified on Oahu Tax Maps as Ninth Division Tax Map Key 9-5-46, Parcels 41 and 42. The land is currently owned by Castle & Cooke Hawaii and was formerly used for agriculture. The site can be accessed from Kahelu Avenue and is a short distance from the H-2 Freeway.

The Mililani Technology Park Lot 17 site was determined to be an option to consider only if the other preferred sites proved nonviable. The site includes the availability of all needed utility infrastructure, excellent road access, and a large developable area allowing for flexibility of design. However, the site is in private ownership and the State preferred to first consider available publicly-owned lands before purchasing privately-owned land. Additional concerns included the distance between this site and the downtown courts, and

its proximity to a pre-school and nearby housing developments. Finally, the neighboring community was vocal in expressing their concerns with, and opposition to, developing the new OCCC at this site; the State heard their concerns and factored them into their assessment of the site.

2.3 IDENTIFICATION OF PREFERRED ALTERNATIVE

The AQS site was selected by the State of Hawaii as the preferred location for the future home of OCCC. This site was chosen based on its extensive positive aspects and relative lack of issues requiring mitigation. The site represents a portion of an underutilized State-owned property

and was suggested by several agencies during the site identification process and associated public outreach activities. DAGS and PSD are confident that the AQS site is the best choice for the future home of OCCC, both for PSD and for the State of Hawaii.

A large number of factors were considered and assessed in determining the suitability of this

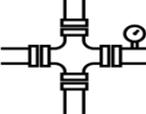
Attributes of the Animal Quarantine Station Site	
 <p>Topography</p>	Topography is relatively level across the entire buildable area, providing flexibility for a wide variety of site layouts as well as avoiding costly grading efforts.
 <p>Development</p>	Site is only partially developed at this time, but has in general been heavily disturbed. This, along with the extensive biological, cultural and archaeological studies that have been conducted on this site, suggests that there is a very low likelihood of encountering intact cultural, historic, Native Hawaiian resources, or threatened/endangered species and/or habitats.
 <p>Environment</p>	There are no wetlands on the site, and it is located outside of any flood hazard zone or tsunami evacuation areas.
 <p>Location</p>	This site is the second closest of the four options to downtown courts (the existing OCCC site is the closest), which will limit the time, effort, and resources associated with transporting detainees back and forth between the facility and the courthouse.
 <p>Roads</p>	There is excellent access to the regional road network - the site is bisected the H-3 freeway and has convenient access to H-201 and H-1.
 <p>Public Transit</p>	Access to public transportation is also available, with a bus stop located approximately one half mile from the site. A new HART rail transit station serving the Aloha Stadium area is being developed.
 <p>Proximity</p>	The site is less than one mile from the Halawa Correctional Facility, offering the possibility of sharing staff, resources and services in the future, if needed.
 <p>Utilities</p>	The existing sewer, water, electrical, and telecommunications infrastructure that is in place at the Animal Quarantine Station site should support the future facility with little to no upgrades required, again avoiding costly improvements.

Table 2-2: Attributes of the Animal Quarantine Station site.

site. One of the primary selection factors was the potential cost of constructing the project, which was identified as a key concern among community members and lawmakers alike. Of the four site options, the AQS site had the lowest projected construction cost by a significant margin. This was due in large part to its size: the buildable area of the site is nearly 25 acres, which was the most generous of the options. This large area afforded a number of cost-saving advantages, such as separating the pre-release and detention portions of the facility into two distinct buildings. This physical separation will allow the pre-release portion to be constructed to a different, lower security level, making this option more affordable than combining both functions into one building, where the entire building would then have to achieve the higher detention security level. The site is also large enough to accommodate significant at-grade parking, likely avoiding the necessity for a costly parking structure, and is potentially large enough to allow for future expansion, if needed. The majority of the site is owned by the State of Hawaii, with a small portion owned by the U.S. Navy, so little or no land acquisition costs are anticipated. Additional beneficial attributes for the AQS site are included in Table 2-2 on the previous page.

The remainder of this Master Plan Report takes a more detailed look at the existing state of the AQS site, as well as construction of a new OCCC on the selected AQS site.

3 ANALYSIS OF SELECTED SITE

On August 28, 2018, Governor David Ige announced the Animal Quarantine Station site in Halawa as the location for development of the new OCCC. The announcement coincided with the acceptance of the Final Environmental Impact Statement (EIS) which, along with its extensive environmental analysis, documented the long-standing need for a new OCCC and the rationale for the Animal Quarantine Station site as the location for its development.

"With this move, we will be able to create a secure, efficient, cost-effective facility," said Gov. Ige. "A project of this size and scope will be costly. It is an investment in our future" (Figure 3-1).

Chapter 3 examines the existing conditions of the Animal Quarantine Station site. This includes a review of the parcels which compose the site and the ownership of these parcels, the current site occupants, the existing site access and infrastructure, and site contamination concerns.



Figure 3-1: Gov. Ige's press conference on Aug. 28, 2018.

Tax Map Key Parcels on AQS Site				
Area Number	TMK	Listed Land Area (ac.)	Land Area within AQS Site (ac.)	Description
1	9-9-010: 006 (por.)	100+	3.47	Navy owned parcel; only small portion falls within AQS site.
2	9-9-010: 046 (por.)	21.46	1	Existing HDOA land; only small portion falls within AQS site.
3	9-9-010: 054	9.66	9.66	Existing HDOA land.
4	9-9-010: 057	5.5	5.5	Existing HDOA land.
5	9-9-010: 058	9.78	9.78	Existing HDOA land.
6	Portion of Halawa Interchange (no TMK)	n/a	3.1	DOT land falling within site boundary; no defined parcel.
7	Portion of Halawa Interchange (no TMK)	n/a	5.7	DOT land falling within site boundary underneath H3 overpass; no defined parcel.

Table 3-1: Tax map key parcels within the Animal Quarantine Station Site corresponding to Figure 3-2.

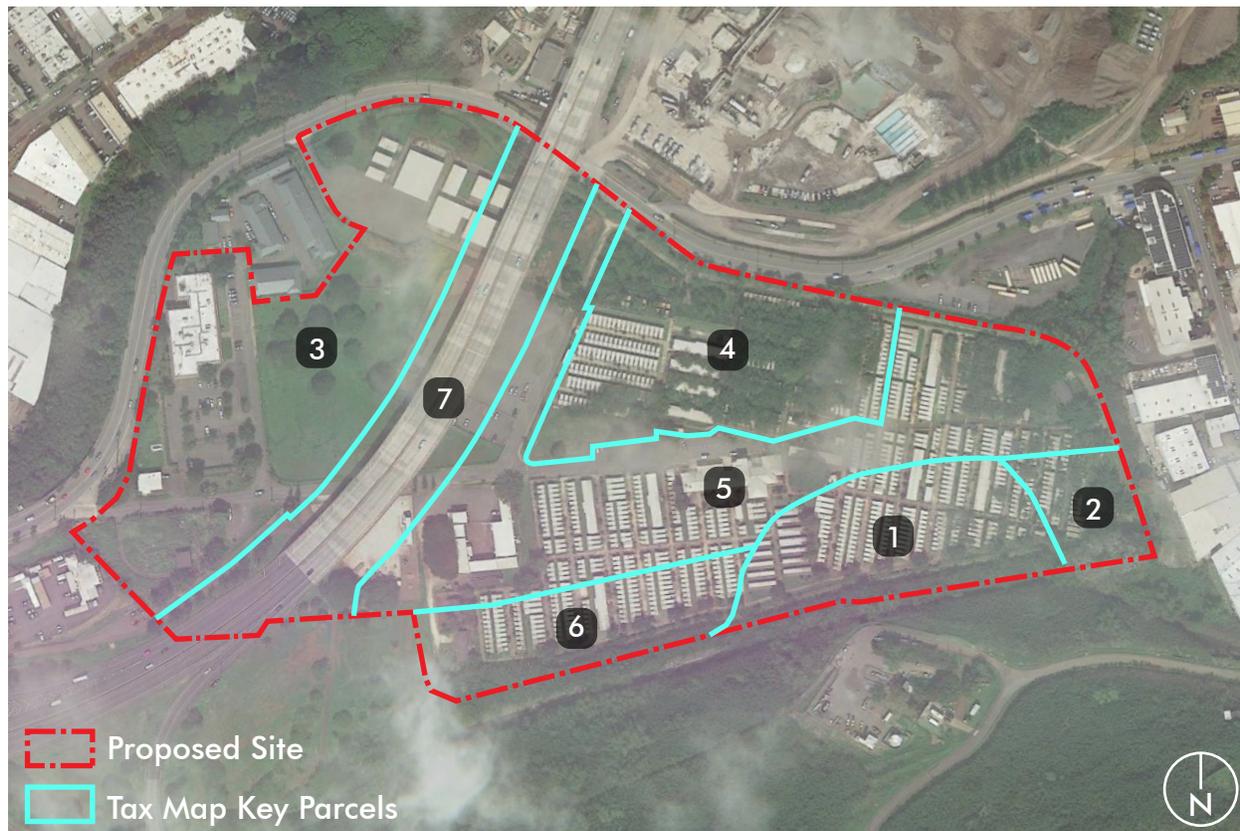


Figure 3-2: Tax map key parcels within the Animal Quarantine Station Site corresponding to Table 3-1.

3.1 SITE OWNERSHIP

The Animal Quarantine Station rests on approximately 35 acres in Halawa Valley at 99-951 Halawa Valley Street, not far from Halawa Correctional Facility. These 35 acres are distributed

across five tax map key (TMK) parcels, as well as two additional parcels without assigned TMKs, as shown in Table 3-1 and Figure 3-2. The ownership of each of these parcels is described in the following paragraphs.

HDOA Parcels

The majority of the existing AQS site is owned by the State of Hawaii, with the Department of Land and Natural Resources (DLNR) acting as the fee title owner. Four of the TMK parcels are formally controlled by the HDOA, under executive order (EO) for the operation of the AQS facility. The bulk of the AQS facilities are located on these parcels (see Figure 3-3). Proposed plans are to move all AQS facilities to the western side of H-3; with this move, the AQS facilities will be entirely concentrated on a parcel already under EO for animal quarantine operations. The remainder of these HDOA parcels will need to be transferred by the State over to the control of PSD via EO.

DOT Parcels

The two additional pieces of this site without TMKs associated with them at this time are also owned by the State of Hawaii, both under the control of HDOT. One portion is the stretch of land running underneath the H-3 highway and on either side of the highway within the right-of-way. Discussions are underway with HDOT regarding the best way for this piece of land to be used by PSD for OCCC while maintaining its use by HDOT for access to servicing H-3. The other portion of the site controlled by HDOT is currently home to kennels and other AQS facilities. It is expected that this portion of the site will be transferred by HDOT to the fee ownership of DLNR, to then be transferred by the State over to PSD's control via EO. Conversations regarding control of both parcels are ongoing between HDOT and DAGS and will need to be resolved prior to construction.



Figure 3-3: Various tenants located on the Animal Quarantine Station Site.

Navy Parcels



Although the majority of the Animal Quarantine Station site is owned by the State of Hawaii, the one remaining parcel not yet discussed is currently under Federal ownership.

This 3.47 acre portion,

located to the south of the existing administration building, is owned by the U.S. Navy and is part of a much larger piece of land located to the south of the site. HDOA currently has an existing and ongoing right-of-entry for this 3.47 acre piece of U.S. Navy property, and it currently is home to a large number of HDOA kennels. Prior to construction, ownership of this parcel will need to be resolved. Conversations between DAGS and the U.S. Navy are ongoing, with consideration being given to leasing the parcel, providing an easement in perpetuity, or providing outright transfer of the land.

According to the Department of the Navy, the Navy's property is currently part of an environmental investigation for potential contamination from a former oily waste disposal site on Navy property. The Navy ordinarily completes any required investigation and remediation prior to conveyance, unless a deferral is approved by the Navy and processed. If a deferral is required by the State and approved by the Navy, proposed use of the property for the OCCC relocation would require DAGS and PSD to acknowledge that there is potential subsurface contamination, rights for access shall be reserved to the Navy to conduct the future investigation/monitoring/environmental remediation and maintenance, and the State shall agree to adhere to the potential future "Land Use Control" requirements the Navy has for the site. Development by the State on the Navy portion of land may be delayed while the environmental activities are ongoing.



Figure 3-4: Road ownership information for roads surrounding the AQS site.

3.2 SITE CHARACTERISTICS

The bulk of the land area of the existing AQS is devoted to animal housing units. This includes an estimated 1,700 dog kennels (most of which are currently not in use), 9 cat buildings, a livestock corral and loading facility, a pasture, a maintenance facility, a caretaker’s residence, and various employee and visitor parking areas. Another important HDOA function that operates within the AQS site is the Animal Industry Division. This includes the State Veterinary Laboratory, the HDOA Administrative Building, the Animal Disease Control Office, and a Necropsy Facility.

The AQS site is also home to many other tenants. Tenants include the U.S. Army Morale, Welfare, and Recreation (MWR) Kennel Facility, U.S. Customs and Border Patrol’s Dog Detection Unit, PSD’s Sheriff’s Canine Unit, DOH Environmental Health Services Division, USDA PPQ Dog Detection, and DLNR maintenance facilities. Construction of the new OCCC facility on this site will require the relocation of some or all of these functions. Although the relocation of these services is not part of this planning project, PSD has maintained

contact with the tenants since early in the process to keep them informed of the schedule and status of the project.

Existing Site Access

Vehicular access to the AQS is provided at Halawa Valley Street which is a two-way, two-lane collector street with concrete curbs, gutters and sidewalks. Halawa Valley Street is owned and maintained by the City (Figure 3-4). A concrete driveway apron and asphalt concrete pavement access road provides access to the west side of the existing site from Halawa Valley Street. There is an additional site access point to the north, leading to the large animal holding area. On-site asphalt concrete pavement access roads and parking lots support vehicular access within the facility.

City bus routes do not service Halawa Valley Street. Pedestrian walkways are in-place along both sides of the existing roadway. Concrete walkways are available throughout the existing AQS, but do not extend to Halawa Valley Street.

Existing Infrastructure

Site Grading and Flood Hazard

The site generally slopes toward the southwest with elevations ranging from 150 feet mean sea level (MSL) to 90 feet MSL at the west side. Storm runoff within the site sheet flows to on-site drain inlets which discharge to South Halawa Stream along the southern border of the site. The site is located outside the 500-year floodplain and is not within the tsunami evacuation zone as established by the Oahu Civil Defense.

Stormwater Drainage System

Grated inlets and catch basins are located along the Halawa Valley Street frontage of the site. Rainfall runoff collected by these inlets and catch basins are diverted into the storm drain lines in Halawa Valley Street. On-site storm drainage systems consist of a network of grated drain inlets and storm drain manholes (Figure 3-5) which are connected by underground drain lines ranging in size from 12- to 30-inches. At-grade inlets are located at the downstream end of vegetated swales running through the facility. The on-site drainage system discharges to South Halawa Stream at the southeast corner of the site. This drainage system along Halawa Valley Street is owned and maintained by the City and County of Honolulu and consists of a network of drain lines, catch basins, and drain manholes. The City system discharges into North Halawa Stream, which runs on the north side of Halawa Valley Street.



Figure 3-5: Existing storm drain manhole on AQS site.

Water Supply System

Water for domestic use and fire protection is provided to the project vicinity via the Board of Water Supply (BWS) municipal water system. This water system consists of a system of distribution lines and fire hydrants along Halawa Valley Street. BWS record drawings and facility maps indicate a 12-inch water main within Halawa Valley Street which provides domestic and fire protection service to the site. Water to the existing AQS is provided by a 6-inch water lateral and 6-inch meter connected to the 12-inch water main. From the water meter, a looped 6-inch water line provides service connections to the existing kennels and office and laboratory facilities. On-site hydrants are connected to the 6-inch water line for fire protection. An 8-inch non-potable line also exists within Halawa Valley Street. No connections to the non-potable water line are currently provided to the project site.

Wastewater Collection System

The existing wastewater collection system in the vicinity of the AQS is operated and maintained by the CCH Department of Environmental Services (ENV). Record drawings obtained from the City indicate that a 15-inch City sewer main runs east-west through the project site along the paved access road and connects to the existing 15-inch sewer main within Halawa Valley Street. A 10-foot wide sewer easement in favor of the City has been established for maintenance of the sewer main. Two 4-inch sewer laterals provide service to the AQS office building. An on-site sewage treatment plant provides pre-treatment for the animal kennels prior to discharging to the City wastewater collection system in Halawa Valley Street via a 15-inch connection. The City's system collects and transports sewage flows generated from the project site to Halawa Pump Station on Salt Lake Boulevard and eventually to the CCH Honouliuli Wastewater Treatment Plant.

Natural Gas

Hawaii Gas (HG) is the owner and operator of the gas infrastructure on Oahu. According to as-built information obtained through email correspondence with HG, there is no existing



Figure 3-6: Existing propane tank on the AQS site.

underground gas system within the project vicinity. An on-site propane tank (Figure 3-6) located at the west corner of the AQS office building provides fuel service to the existing facility.

Electrical (Power) System

Electrical service to customers in the project area is provided by the Hawaiian Electric Company (HECo) and distributed overhead on joint use utility poles. All existing joint use poles are located within road right-of-ways or utility easements. HECo overhead facilities run along Halawa Valley Street and consist of 46 kV sub-transmission, 12 kV distribution, and secondary lines. Pole mounted transformers are provided to step the 12 kV distribution voltage down to utilization voltages. The joint use poles also support the overhead secondary circuits which distribute the power from the pole mounted transformers. Larger customers, including the AQS office building, are served power via a primary 12 kV feeder extended underground to the property for use with a HECo pad-mounted transformer.

The 46 kV sub-transmission lines terminate at the HECo Halawa substation, located along Halawa Valley Street, west of the H-3 Freeway. There are two 12 kV circuits along the Halawa Valley Street pole line. These 12 kV circuits are routed down via risers to where the H-3 Freeway crosses Halawa Valley Street, where they are then routed underground. The 12 kV circuits then continue overhead on joint

use poles, along Halawa Valley Street, east of the H-3 Freeway.

Telecommunications Systems

Telephone, cable television and related telecommunications services are provided to customers in the project area by Hawaiian Telecom (HT) and Spectrum (formerly Oceanic Time Warner Cable). Customers have the option to contract with HT, Spectrum or both for their telecommunications services. Both HT and Spectrum are capable of providing voice, internet and other telecommunications services to their customers. Based on preliminary planning discussions with PSD, the proposed OCCC is expected to utilize telephone (voice) service by HT and fiber (data)/coaxial (cable television) service by Spectrum.

The existing HT and Spectrum telecommunications cables are generally run overhead and follow the path of the HECo electrical lines along Halawa Valley Street. The HT overhead distribution system consists of a combination of fiber optic and copper cables along the Halawa Valley Street joint pole line, and the Spectrum overhead distribution system consists of fiber optic and coaxial cables.

The existing customers within the project area have a combination of overhead and underground services from HT and Spectrum. Telecommunications services to the Animal Quarantine Station are routed along a joint use pole line, which runs parallel with the existing access road within the facility, between Halawa Valley Street and H-3 Freeway. The HT and Oceanic cables are then routed underground, along the existing access road, to the remaining quarantine station facilities to the east of the H-3 Freeway.

For more information on the existing infrastructure on the AQS site, including maps, see Appendix G.

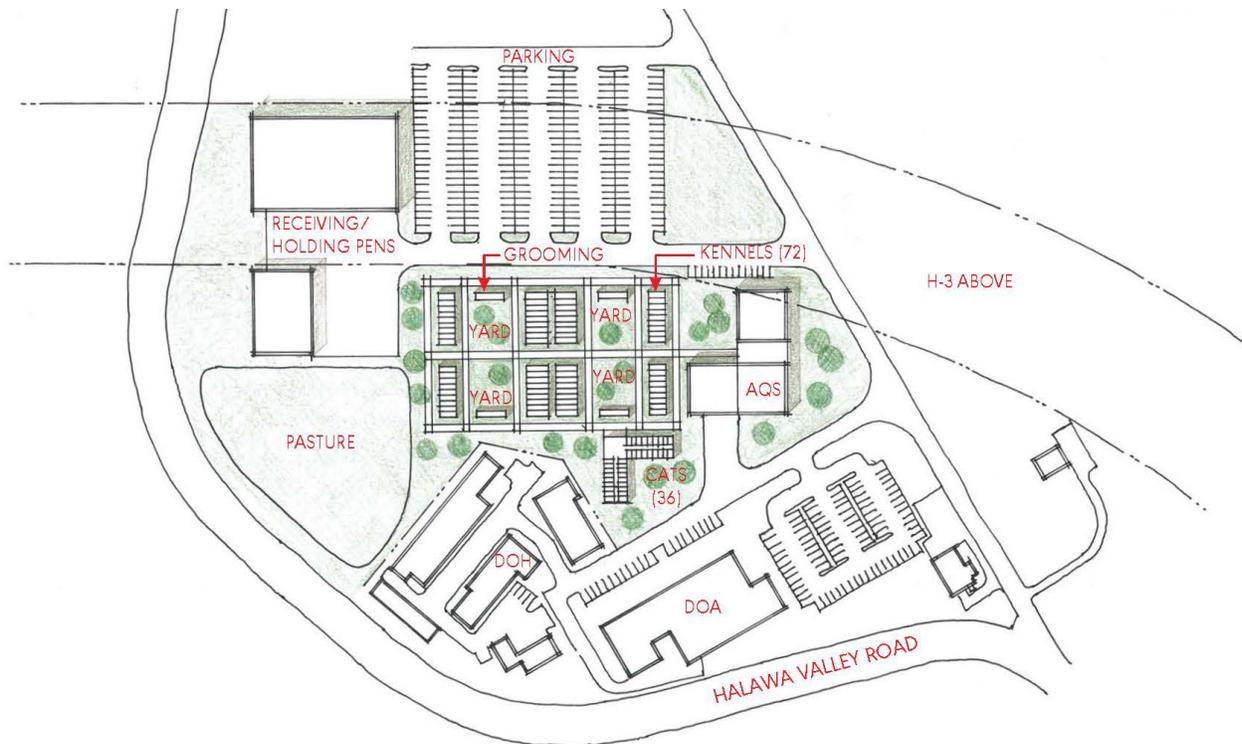


Figure 3-7: Conceptual site plan for the new AQS located on the west side of H-3.

Adjacent Uses

This site is surrounded by roads, open space, outdoor storage of construction equipment and materials, a quarry, and industrial uses. In addition to providing access to the site, Halawa Valley Street forms the site’s western and northern borders. The site lies just north of Moanalua Freeway while the H-3 Freeway bisects the site from the southwest to the northeast. Development for the new OCCC is planned to be limited to the approximately 25-acre portion of land east of the H-3 Freeway, while the new AQS facility is expected to be constructed on the 10-acre portion of land west of the H-3 Freeway (as depicted in Figure 3-7 and Figure 3-8). There is a transit stop servicing bus routes in close proximity. When completed, the HART Aloha Stadium rail station will be about 2 miles away. The surrounding neighborhood is largely industrial in nature. Adjacent land uses include the Hawaiian Cement Company, undeveloped land, industrial warehouses, and HDOA livestock and research facilities. Immediately south of the site is the U.S. Navy parcel discussed in the previous section.



Figure 3-8: Proposed development locations for OCCC and AQS.



Figure 3-9: *Tar-like substance located on the AQS parking lot surface.*

Potential Environmental Contaminates on Site

In the spring of 2018, following the extensive site investigations performed as part of the EIS work, a Phase I Environmental Site Assessment (ESA) of the AQS site was completed. This Phase I ESA was based on a site inspection, a review of available files and historical records and reports, communication and coordination with Federal and State agencies, interviews with knowledgeable local officials, and the findings of an environmental database report. The purpose of the Phase I ESA was to identify potential Recognized Environmental Conditions (RECs), Historical RECs (HRECs), or Controlled RECs (CRECs) associated with the Site. The Phase I ESA indicated a small amount of existing waste piles as well as hazardous chemicals with potential for contamination in use at the existing AQS, and recommended removal of these chemicals prior to development activities. Additionally, the ESA noted additional information regarding existing environmental conditions as discussed in the following paragraphs.

Since the early 2000s, a black, viscous, tar-like substance has been observable on the parking lot surface along the western portion of the overall property (as shown in Figure 3-9). In 2004, Kimura International, Inc. was contracted to conduct a limited Phase I ESA for the Animal Quarantine Station. According to the limited Phase I ESA, the source of the substance was uncertain; however, the substance was previously analyzed in 2003 for polychlorinated biphenyl (PCB), total petroleum hydrocarbons (TPH) in diesel, TPH in gasoline, volatile compounds, semi-volatile compounds and the eight Resource Recovery and Conservation Act (RCRA) metals. Based on the laboratory results, the material was not considered a hazardous substance. It is also isolated to an area of the site that has no planned construction activity for the new OCCC facility. No further action is recommended with respect to this tar-like material.

In 1975, the HDOA sought and received permission from the Environmental Protection Agency (EPA) to dispose of an unknown quantity of old and degradable pesticides (primarily malathion and tomato dust, but possibly others as well) by burial on the Site. The pesticides were disposed of in a 7-foot concrete cube in an undeveloped area of the Site; the EPA subsequently confirmed that this disposal was performed in accordance with its regulations for disposal. These pesticides were removed and disposed of in 1978 during construction of the HDOA Animal Industry Division building, which was constructed over the location of the former pesticide bunker.

The U.S. Navy property to the south of the Animal Quarantine Station Site is currently part of an environmental investigation for potential contamination from a former oily waste disposal site. This investigation will be conducted by the Navy under the Navy's Environmental Restoration Program. Proposed use of a portion of TMK 9-9-010-006 for the OCCC relocation would require DAGS and/or PSD to acknowledge that there is potential subsurface contamination, grant access to the Navy to conduct future investigation/monitoring/environmental maintenance and adhere to potential future Land Use Control actions at the site. Layout of future facilities should consider these environmental requirements. However, no action is recommended at this time.

For further information on environmental contamination on site, refer to the Phase I ESA. This has been provided with this report in Appendix K.

4 MASTER PLAN FOR SELECTED SITE

The OCCC planning process described thus far has culminated in the Master Plan for the selected site as described in this chapter. This Master Plan summarizes the establishment of the basis of design, the preliminary design concepts establishing plan layout and building configuration, and the proposed site layout, development, and engineering.

4.1 BASIS OF DESIGN

Prior to developing a Master Plan for the preferred site, it was necessary for the Project Team to establish a Basis of Design on which the Master Plan would be founded. This Basis of Design centered on two fundamental questions: how many individuals will need to be held at the new OCCC facility, and what functions are required at the new facility to support these individuals? These questions were reviewed, answered, and issued

to PSD/DAGS in the form of two documents: the 10-Year Inmate Forecast (included here as Appendix A) and the Interim Architectural Space Program (included as Appendix F in the EIS). This information is more thoroughly explained in the Project Development Report (PDR) for the new OCCC facility; however, to provide a background for review of the Master Plan a brief summary of these documents is provided below.

Population Forecast

To design and develop a new, properly sized detention facility, the type and number of detained persons to be housed needed to first be established. To accomplish this, a population forecast for OCCC was prepared. Historical and current inmate statistics were provided to the Consultant Team from PSD; this data included total inmate population, as well as the custody classification level and legal status of the current inmates. The numbers provided indicated a slightly declining

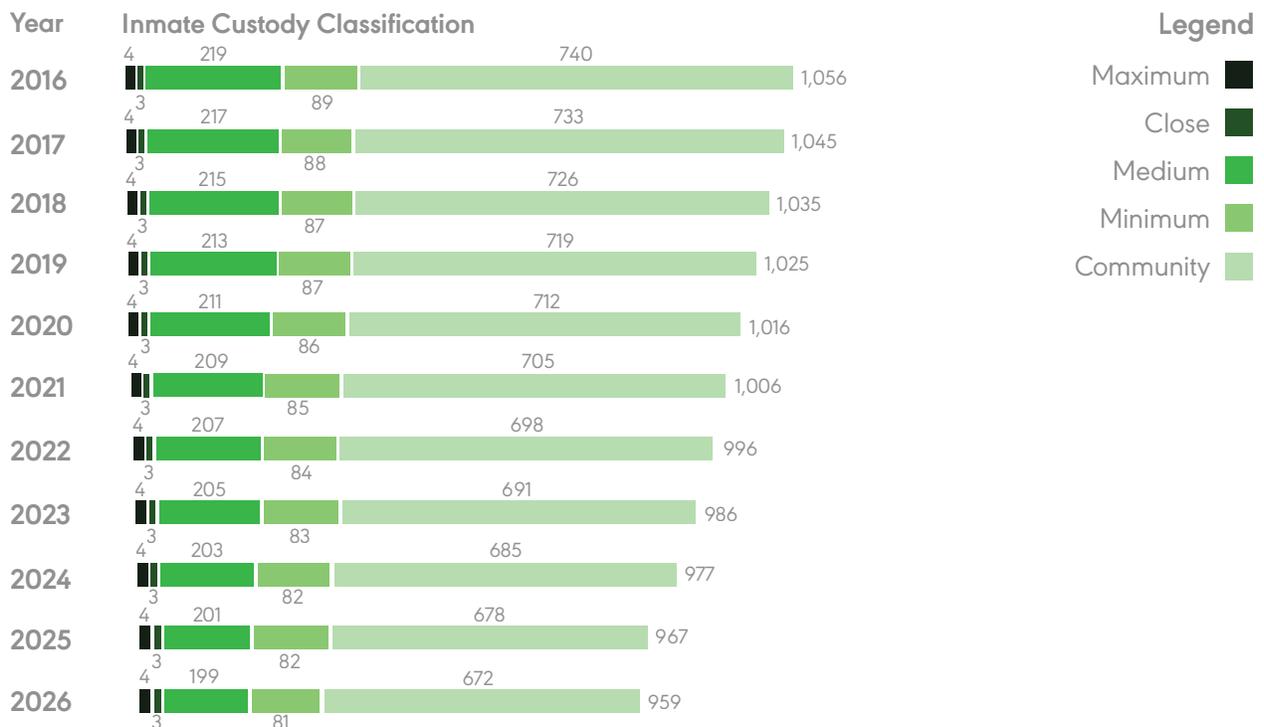


Figure 4-1: Male inmate population forecast, by custody classification, for 2016 - 2026.

Pre-Release Bed Forecast for Males

FY16-26



Figure 4-2: Male pre-release population forecast for 2016 - 2026.

population trend for the male detention population over the past few years. This data was factored together with the anticipated growth in the City and County of Honolulu population, anticipated effects from new early release legislation, and a peaking factor meant to account for day-to-day fluctuation in the number of inmates to generate an anticipated population forecast through Fiscal Year (FY) 2026 (see Figure 4-1). The forecasted number of detention males at OCCC in FY 2026 is 959, lower than the current population of 1,057.

The inmate forecast also looked at the anticipated FY 2026 pre-release population, using similar methods of calculation. Contrary to the detention population for males, the male pre-release population is expected to expand over the next decade. Pre-release, also known as re-entry, is recognized throughout the country as a best practice in corrections that is cost beneficial and has the potential to reduce recidivism. As a result, PSD, like many other administrators of correctional systems across the U.S., are investing in expanding pre-release programs. PSD reported that about 300 males on Oahu are eligible for pre-release at any given time, so this number was used as the basis for the forecast. With an assumed two percent growth rate, the forecast predicts 392 pre-release males by FY 2026 (see Figure 4-2). At this time, it is assumed that the 96-bed Laumaka Work Furlough Center (LWFC) is not being relocated and will remain operational, which reduces the net need to 296 pre-release beds.

In summary, the total number of new rated beds expected to be required for detention and pre-release males is 1,255 (959 + 296 = 1,255). This is the number on which the architectural programming effort was based. However, because housing is built in modules, the actual number of rated beds planned is larger than the number required. The current program calls for male detention housing to provide for 1,044 new rated beds, with the planned pre-release housing providing an additional 288 new rated beds. These additional beds provide the means for the facility to address spikes in the daily population, and afford the administration the ability to separate varying inmate classifications.

Architectural Program

The other necessary half of the basis of design was establishing the architectural program for the facility. The architectural program is closely tied to the intended operational program for the facility, the intent of which was established by the leadership of PSD and conveyed to the project team through several interactive planning workshops. This determined the desired functions of the facility. From here, the team was able to work with PSD to provide and size key spaces necessary in order to complete these functions.

Working with PSD and DAGS, the basic plan and program for the proposed new OCCC facility was developed. This helped to resolve the nature, scale, capacity and key features of the proposed facility,

and the topics of importance and issues of concern regarding the future of OCCC. In addition to the basic functional requirements of the detention facility, this included providing for the variety of programmatic issues: providing vocational training and technical education to give offenders the tools that will enable them to leave the facility as productive members of society.

With the population estimates set, the housing requirements and sizes were then developed based on standard module sizes (primarily 36-, 48-, and 72-bed modules). To minimize necessary movement of inmates, it was decided that most inmate services, such as food, medical, and programs, will be delivered at the housing units. The facility population, space sizing, and equipment quantities were projected in support facilities such as: kitchen, laundry, program support/education, administration, security, warehouse/shop, and central plant.

The programmatic quantities and sizes are recorded on space lists in the program, which has been included in Appendix H. The functional intent and spatial relationships are graphically

represented in the form of adjacency diagrams. The work established in the architectural program was refined and revised to fit the selected site as part of the Master Plan, as detailed in the following sections.

The architectural space program was developed to properly size all spaces and functions to be included in the new facility, and was based on the assumption that the new facility would have enough space to be developed as a low-rise facility. This effort helped to ensure that all sites under consideration would be large enough to sufficiently accommodate the proposed OCCC, along with support of ancillary facilities. The space program also assumes that the entire inmate population - short-term sentenced, pre-trial, and pre-release inmates - will all be located on the same site. Net usable and departmental gross square footages were developed for all major areas needed in the new detention facility (shown in Figure 4-3).

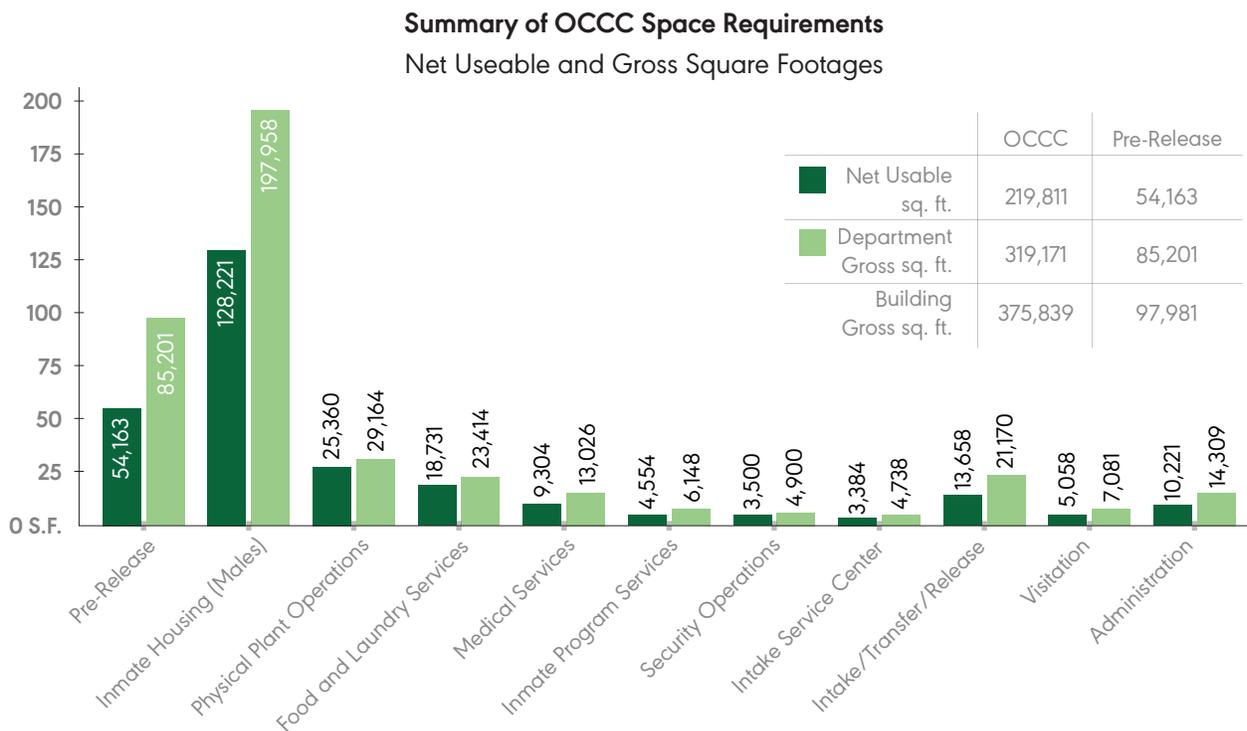


Figure 4-3: Estimated space requirements per department in the proposed OCCC.

4.2 MASTER PLAN DEVELOPMENT

Once the initial architectural program was completed, it went through a series of rounds of refinement. This included confirming the necessity of each space shown, the size allotted for each space, and the grossing factors provided to account for circulation, structure, and mechanical elements. A series of interview sessions were held with the various PSD user groups to review their goals and requirements for the new facility. These goals were reconfirmed after discussions with PSD and DAGS leadership.

Following the review sessions, the space worksheets were evaluated and updated. The previous adjacency diagrams evolved into plan diagrams which provided a detailed look at how the spaces could actually be laid out within a building footprint. By this point, the decision had been made to move forward with the Animal

Quarantine Station site as the preferred location for the new facility. Analysis of the site’s characteristics determined that a mid-rise detention facility with a separate pre-release facility would be the best use of space; the plan diagrams and updated space worksheets included herein reflect these decisions. Further analysis of the AQS site can be found in the following section.

The fundamental facility program requirements remain very similar to those discussed in the initial program document and in the Project Development Report. These have been distributed into eleven distinct departments (shown in Figure 4-4).

A thorough description of each department of the OCCC facility can be found within Appendix H; a brief summary of each, along with their corresponding program space lists and functional diagrams are included on the following pages.



Figure 4-4: Primary program requirements for the new facility.

1. Administration

This area of the building is located in the northwest quadrant of the building on the ground floor. Although within the secure building envelope, the Administration section is located outside of the facility's interior maximum security line. This space is accessible by both facility staff and the general public; both groups will be subject to screening prior to entering the lobby. Main administrative functions, including the offices of the Warden, Deputy Warden, and Chief of Security, as well as the facility Business Office will be located in this area. Essential staff support functions are also located within the administration area, including the staff training area, the armory, security equipment storage, Emergency Operations Center, and the locksmith, which is located close to the Chief of Security.

The program space list and preliminary design diagram are shown in Table 4-1 and Figure 4-5 respectively.

2. Visitation

The visitation area will be accessible to the public directly from the lobby, and will include facilities allowing for limited interaction between inmates and visitors. Video visitation will be the standard method of visitation, with video booths provided for visitors within the visitation area, and corresponding video visitation booths located within the inmates' housing unit dayrooms. A limited amount of space has been allotted for contact and non-contact visitation; contact visits are likely to be allowed only for visits between inmates and their attorneys.

Limited court functions can also be hosted within the visitation area. A section separate from the visitation booths will be dedicated for District Court and Circuit Court proceedings, some of which can be remote by video. A limited amount of space is also provided for judicial staff adjacent the courtrooms.

The program space list and preliminary design diagram are shown in Table 4-2 and Figure 4-5 respectively.

Space #	Space Name	Net Usable Square Feet	Grossing Factor	Departmental Gross Square Feet	Total Area (DGSF)
1.0 ADMINISTRATION					
1.100	Entry Lobby	1,940	40%	776	2,716
1.200	Administrative Offices	5,706	40%	2,282	7,988
1.300	Staff Services	2,575	40%	1,030	3,605
TOTAL AREA (NSF) ADMIN.		10,221			
TOTAL AREA (DGSF) ADMIN.					14,309

Table 4-1: Administration Department program space list.

Space #	Space Name	Net Usable Square Feet	Grossing Factor	Departmental Gross Square Feet	Total Area (DGSF)
2.0 VISITATION					
2.100	Visitation	5,058	40%	2,023	7,081
TOTAL AREA (NSF) VISITATION		5,058			
TOTAL AREA (DGSF) VISITATION					7,081

Table 4-2: Visitation Department program space list.

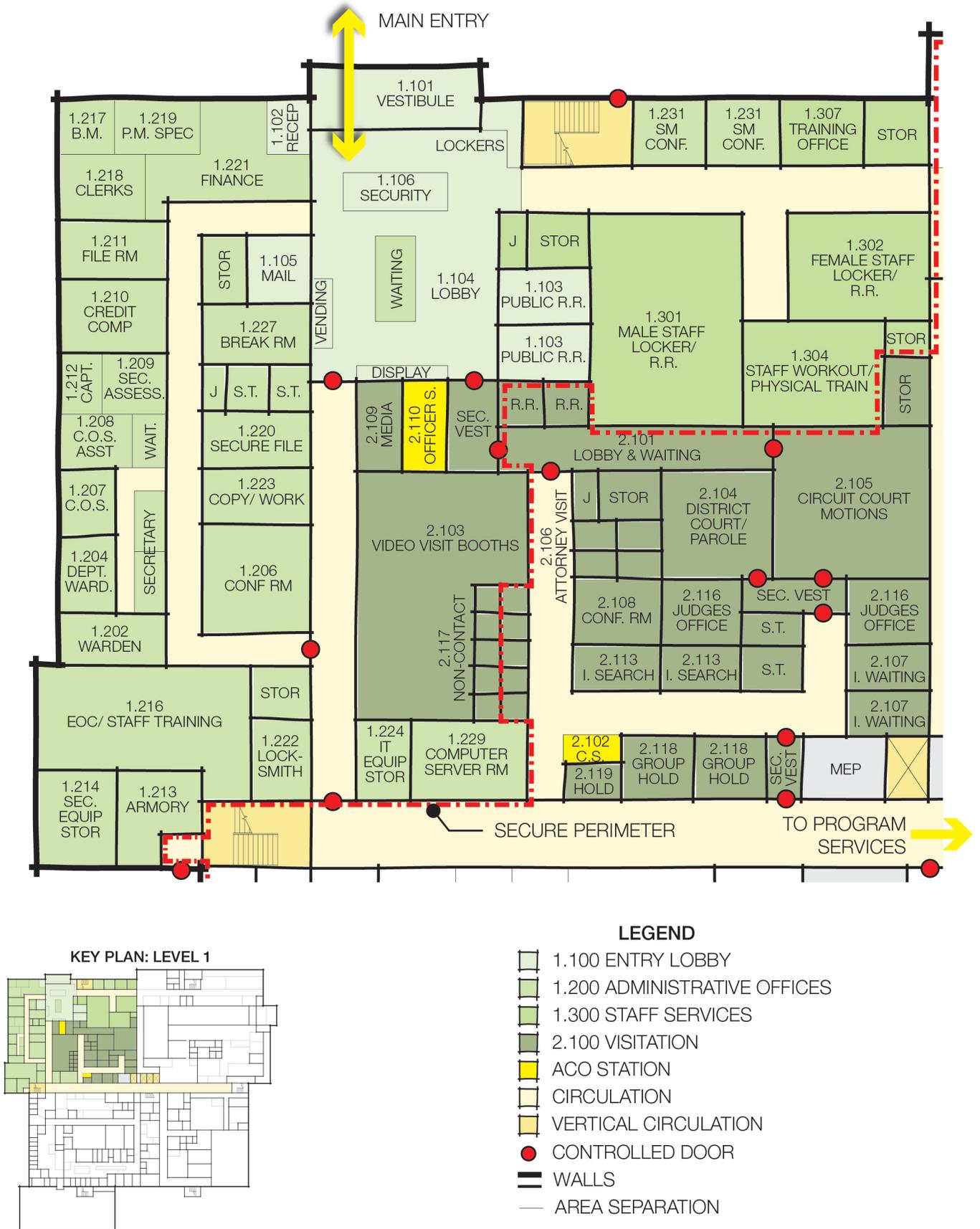


Figure 4-5: Functional diagram for the Administration Department and Visitation area.

3. Intake/Transfer/Release (ITR)

The Intake/Transfer/Release (ITR) function will be a secure bubble on the perimeter of the facility located in the southwest quadrant of the ground floor. It will be located convenient to the Intake Services Center, as well as the Medical section, which is located on the second floor and accessible by elevator. Each of these sections interact with inmates as they arrive and depart the facility. Passing through this area are new arrivals, inmates going to and from courts, and individuals that are being released. Functions related to these movements are provided for in this area, such as temporary holding cells, property storage, inmate screening, and interview areas.

The program space list and preliminary design diagram are shown in Table 4-3 and Figure 4-6 respectively.

4. Intake Service Center (ISC)

Intake Service Center (ISC) functions located at the OCCC facility are primarily to provide assessment and classification services for inmates at the facility. The ISC staff works with inmates who are housed at the facility as well as those that may be in a community release status. Provisions are included for persons on community release status to go through drug testing and interviews in this area. The ISC is located on the first floor next to the ITR, and includes office and work space for the social workers and managers overseeing the ISC as well as a significant record keeping function.

The program space list and preliminary design diagram are shown in Table 4-4 and Figure 4-6 respectively.

Space #	Space Name	Net Usable Square Feet	Grossing Factor	Departmental Gross Square Feet	Total Area (DGSF)
3.0 INTAKE / TRANSFER / RELEASE					
3.100	Reception / Transport Area	6,100	55%	3,355	9,455
3.200	Transport Team	180	55%	99	279
3.300	Intake Processing	2,960	55%	1,628	4,588
3.400	Inmate Records	1,290	55%	710	2,000
3.500	Inmate Property / Dress	1,358	55%	747	2,105
3.600	Release / Transfer Area	1,770	55%	974	2,744
TOTAL AREA (NSF) ITR		13,658			
TOTAL AREA (DGSF) ITR					21,170

Table 4-3: Intake/Transfer/Release program space list summary.

Space #	Space Name	Net Usable Square Feet	Grossing Factor	Departmental Gross Square Feet	Total Area (DGSF)
4.0 INTAKE SERVICE CENTER (ISC)					
4.100	ISC	3,384	40%	1,354	4,738
TOTAL AREA (NSF) ISC		3,384			
TOTAL AREA (DGSF) ISC					4,738

Table 4-4: Intake Service Center program space list summary.

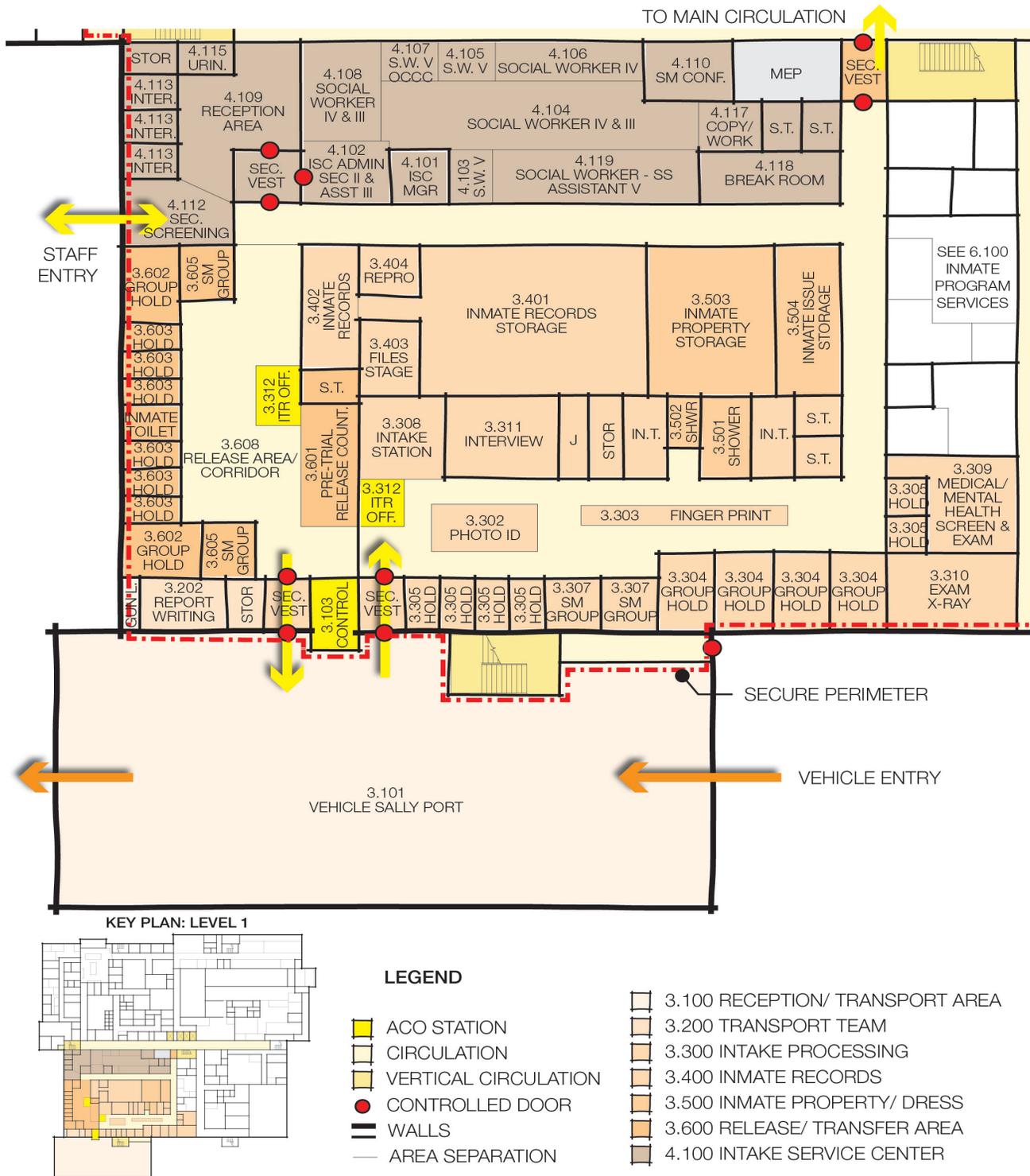


Figure 4-6: Functional diagram for the ITR and ISC.

5. Security Operations

Security Operations will house the day-to-day custody operations located within the secure perimeter, and will be in operation 24 hours a day, seven days a week. Office space is provided for the Watch Commander (Captain) and Operations Lieutenants. The design of this area will be highly sensitive, and the determination of the span of control will be discussed in security narratives which will be developed later in the design process. Associated with the central control will be a security electronics room which contains sensitive equipment essential to the secure functioning of the facility. This area will also include a large briefing room for custody staff to meet as they come on shift, as well as an area for report writing.

The program space list and preliminary design diagram are shown in Table 4-5 and Figure 4-7 respectively.

6. Inmate Program Services

As previously indicated, services will be delivered in the individual housing units to the greatest extent practical. These distributed program services will include education, library, treatment, and religious programs. The Inmate Program Services space will provide required office space, as well as supporting materials spaces, for educators, chaplains, and library staff. A central library collection, including the law library, will be available in this space, although recreational collections will rotate through the housing units.

A limited amount of space is provided at this central location for re-entry programs. Some volunteers will be in this area to assist with program support, as well as some inmates working, helping, and receiving training.

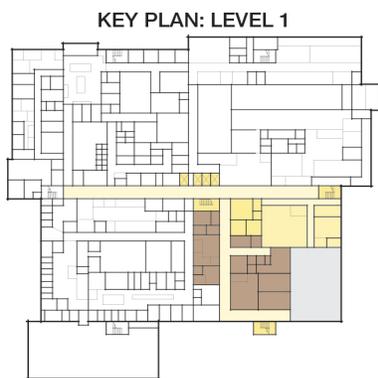
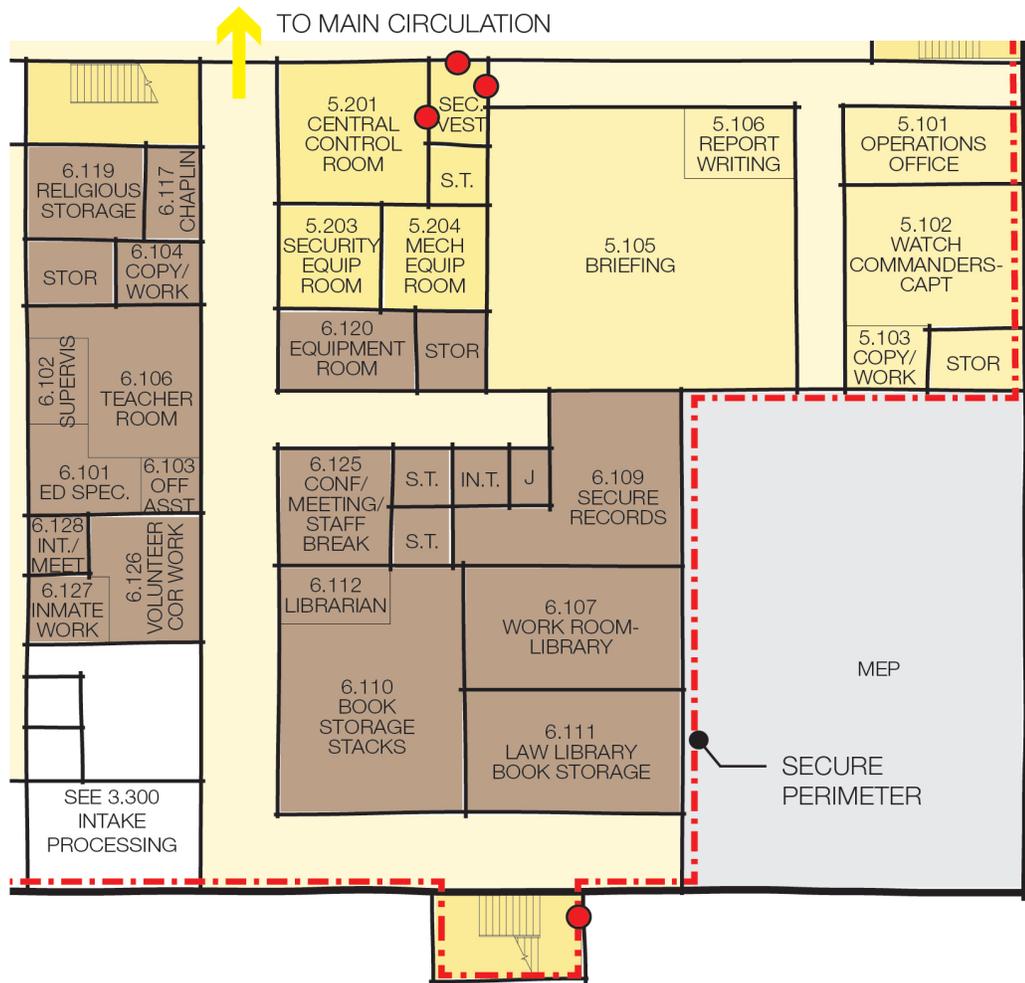
The program space list and functional diagram are shown in Table 4-6 and Figure 4-7 respectively.

Space #	Space Name	Net Usable Square Feet	Grossing Factor	Departmental Gross Square Feet	Total Area (DGSF)
5.0 SECURITY OPERATIONS					
5.100	Security Operations Command	2,560	40%	1,024	3,584
5.200	Control Center	940	40%	376	1,316
TOTAL AREA (NSF) SECURITY OPERATIONS		3,500			
TOTAL AREA (DGSF) SECURITY OPERATIONS					4,900

Table 4-5: Security Operations program space list.

Space #	Space Name	Net Usable Square Feet	Grossing Factor	Departmental Gross Square Feet	Total Area (DGSF)
6.0 INMATE PROGRAM SERVICES					
6.100	Program Services - Central	4,554	35%	1,594	6,148
TOTAL AREA (NSF) PROGRAM SERVICES		4,554			
TOTAL AREA (DGSF) PROGRAM SERVICES					6,148

Table 4-6: Inmate Program Services program space list.



- LEGEND**
- 5.100 SECURITY OPERATIONS COMMAND
 - 5.200 CONTROL CENTER
 - 6.100 INMATE PROGRAM SERVICES
 - ACO STATION
 - CIRCULATION
 - VERTICAL CIRCULATION
 - CONTROLLED DOOR
 - WALLS
 - AREA SEPARATION

Figure 4-7: Functional diagram for the Security Operations and Inmate Program Services.

7. Medical/Mental Health Services

Medical and Mental Health Services will be provided to both the Detention Center and to the Pre-Release Center. These functions will be located near the ITR for intake screening as well as within the Medical/Mental Health unit on the second floor. This area is subdivided into three areas: the Clinic, Infirmary, and Administrative spaces. When practical, the initial medical screening and medication distribution will happen at the housing units. Inmates will move to the clinic to receive medical, dental, and mental health services. The administrative support area will be central to the Medical/Mental Health area. Medical records and the pharmacy will be located in this area. Part of the medical center includes two housing units - Acute Mental Health and Step Down Mental Health - provided for inmates whose needs require them to be temporarily removed from the general population.

The program space list and preliminary design diagram are shown in Table 4-7 and Figure 4-8 respectively.

8. Food and Laundry Services

Food and Laundry Services will be located inside of the secure perimeter on the ground floor, close to the east exterior wall to provide necessary access to the loading dock. The kitchen may be in operation over two shifts, seven days each week. Meals will be prepared in the central kitchen, placed on trays, and then taken to the housing units on carts to serve to the inmates, including those housed in the Pre-Release Facility. Culinary arts programs will be offered to inmates as a part of a training program.

Laundry services will be centralized in one area. Inmate clothing and bedding will be collected at the housing units, laundered, and returned to the units. Included in the laundry area is storage for a stock of inmate clothing. Pre-Release personal laundry will be done by inmates at that facility, with equipment located adjacent to the Pre-Release dayrooms.

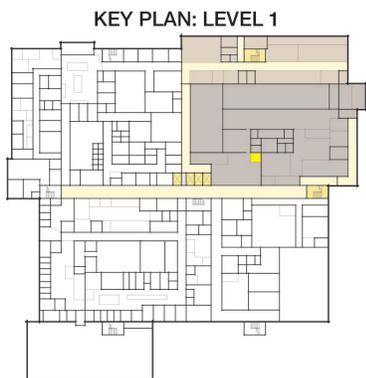
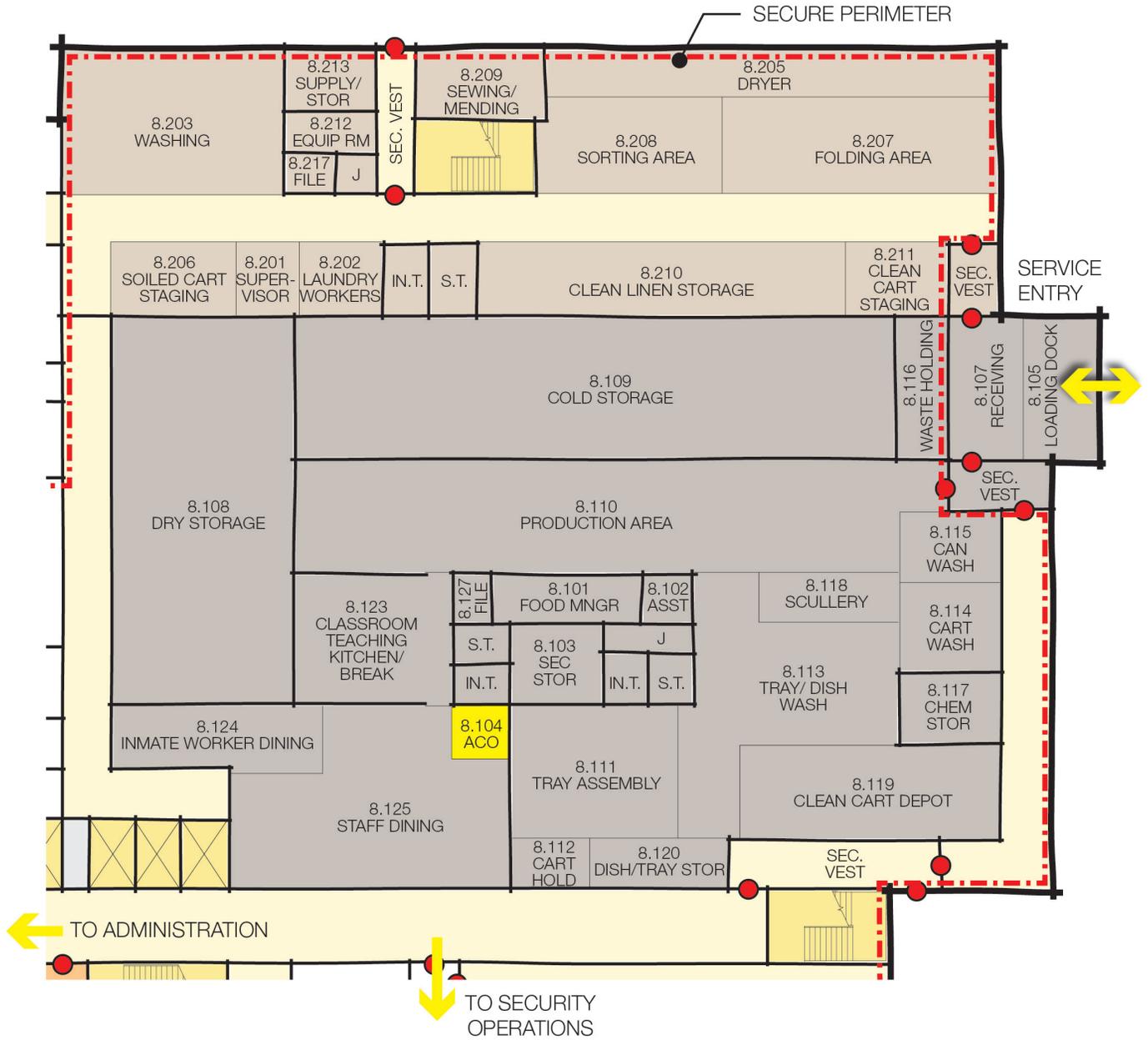
The program space list and preliminary design diagrams are shown in Table 4-8 and Figure 4-9 respectively.

Space #	Space Name	Net Usable Square Feet	Grossing Factor	Departmental Gross Square Feet	Total Area (DGSF)
7.0 MEDICAL/MENTAL HEALTH SERVICES					
7.100	Staff and Support Areas	3,889	40%	1,556	5,445
7.200	Clinic	3,140	40%	1,256	4,396
7.300	Infirmary	2,275	40%	910	3,185
TOTAL AREA (NSF) MEDICAL SERVICES		9,304			
TOTAL AREA (DGSF) MEDICAL SERVICES					13,026

Table 4-7: Medical and Mental Health Services Department program space list.

Space #	Space Name	Net Usable Square Feet	Grossing Factor	Departmental Gross Square Feet	Total Area (DGSF)
8.0 FOOD SERVICE / LAUNDRY					
8.100	Food Services	13,860	25%	3,465	17,325
8.200	Laundry Services	4,871	25%	1,218	6,089
TOTAL AREA (NSF) FOOD + LAUNDRY		18,731			
TOTAL AREA (DGSF) FOOD + LAUNDRY					23,414

Table 4-8: Food and Laundry Services Department program space list.



- LEGEND**
- 8.100 FOOD SERVICES
 - 8.200 LAUNDRY SERVICES
 - ACO STATION
 - CIRCULATION
 - VERTICAL CIRCULATION
 - CONTROLLED DOOR
 - WALLS
 - AREA SEPARATION

Figure 4-9: Functional diagram for Food and Laundry Services.

9. Physical Plant Operations

This section has three main components: Facility Maintenance, Warehouse, and Central Plant. These will be located within a fenced perimeter near the Detention Center. Some inmate workers will be employed in the warehouse and maintenance shops.

Facility Maintenance will include offices for management staff as well as facility material storage. Shops for carpentry, plumbing, HVAC, and electrical trades will be included, as well as secure storage for tools. Vehicle maintenance will not be included at OCCC.

The Warehouse will include bulk storage for consumables, with high bay storage, and office space provided for warehouse management staff. The warehouse is expected to be operational during normal business hours. Refrigerated and frozen food storage will be included. A large loading dock with an apron sized for large delivery trucks is required. The warehouse yard will be accessed through a vehicle sally port large enough for a large truck.

Both Detention and Pre-Release trash handling will be handled in the yard outside the Warehouse, adjacent to the loading dock. This includes both recycling and waste programs. A compactor should be sized for large loads.

Central Plant facilities will include emergency generators, main electrical service entry gear, central cooling as appropriate, water treatment, and other facilities as required. The types and sizes of equipment will be determined during the design process. Some components such as generators, transformers, and cooling equipment may be centralized, others may be distributed throughout the facility. This area will be conveniently accessible for repair and utility company access.

The program space list and the functional diagram are shown in Table 4-9 and Figure 4-10, respectively.

Space #	Space Name	Net Usable Square Feet	Grossing Factor	Departmental Gross Square Feet	Total Area (DGSF)
9.0 PHYSICAL PLANT OPERATIONS					
9.100	Facility Maintenance	4,245	15%	637	4,882
9.200	Warehousing	6,915	15%	1,037	7,952
9.300	Central Energy Plant	14,200	15%	2,130	16,330
TOTAL AREA (NSF) PLANT OPERATIONS		25,360			
TOTAL AREA (DGSF) PLANT OPERATIONS					29,164

Table 4-9: Physical Plant Operations program space list.



Figure 4-10: Functional diagram for Physical Plant Operations.

10. Inmate Housing

Typical inmate housing is planned to accommodate both Sentenced and Pre-Trial male populations. The current plan provides for 1,044 rated beds, based off of the 10-Year Inmate Forecast for FY 2026. The planning for housing takes into consideration the differing classification and status of the target populations. The capacity does not include medical, acute mental health, and segregation beds which are not included as 'rated bed count'. Inmates housed in these areas are expected to return to their assigned housing units when cleared by medical/mental health staff. The Housing Breakdown chart follows:

A modular housing unit design is provided based on the 'borrowed light' configuration. In most cases housing units are planned for a capacity of 36 or 72 beds, depending on whether the cells will house one or two occupants. Single vs. double occupancy is primarily determined by security level of the population. Single-occupant cells will include space for a bunk, writing surface, grooming area, combination unit plumbing fixture, and 35 square feet of unencumbered space. Double-occupant cells include space for bunks, writing surface, grooming area, combination unit plumbing fixture, and 50 square feet of unencumbered space.

Each housing unit will include the facilities required to provide programming, delivery services, and meet ACA Standards. The Maximum-Security housing includes an Acute Mental Health Unit, a Special Needs Unit, and a Maximum/Close Custody Unit, each with 36 single-occupant cells. One cell in each unit will be handicap accessible. The Mental Health Step-Down Unit, Medium and Minimum-Security Units will each be sized for 72 inmates housed in 36 cells. One cell in each unit will be handicap accessible.

Common spaces in each module include a dayroom, outdoor recreation, and program spaces. Other spaces will include showers, staff toilet, an officer's station, unit team offices, and storage. Medical screening and medication distribution will occur in a dedicated room adjacent to the dayroom. If more detailed medical services are required, the inmate will be moved to the

clinic. Library and video visitation will occur in the dayroom. In most housing units, cells are arranged around the two-level high dayroom with access from the dayroom floor or from a mezzanine level walkway. Maximum Security and Suicide Watch units are only single level.

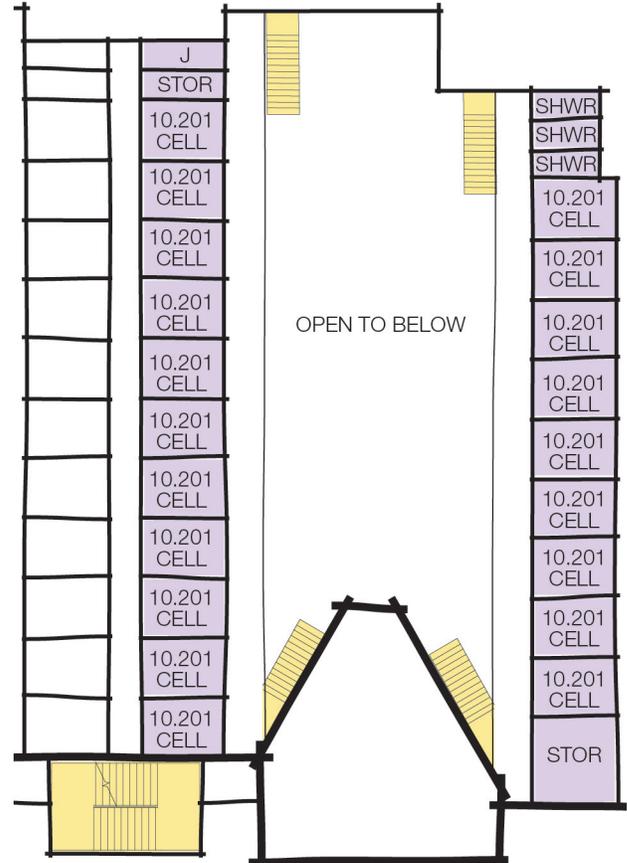
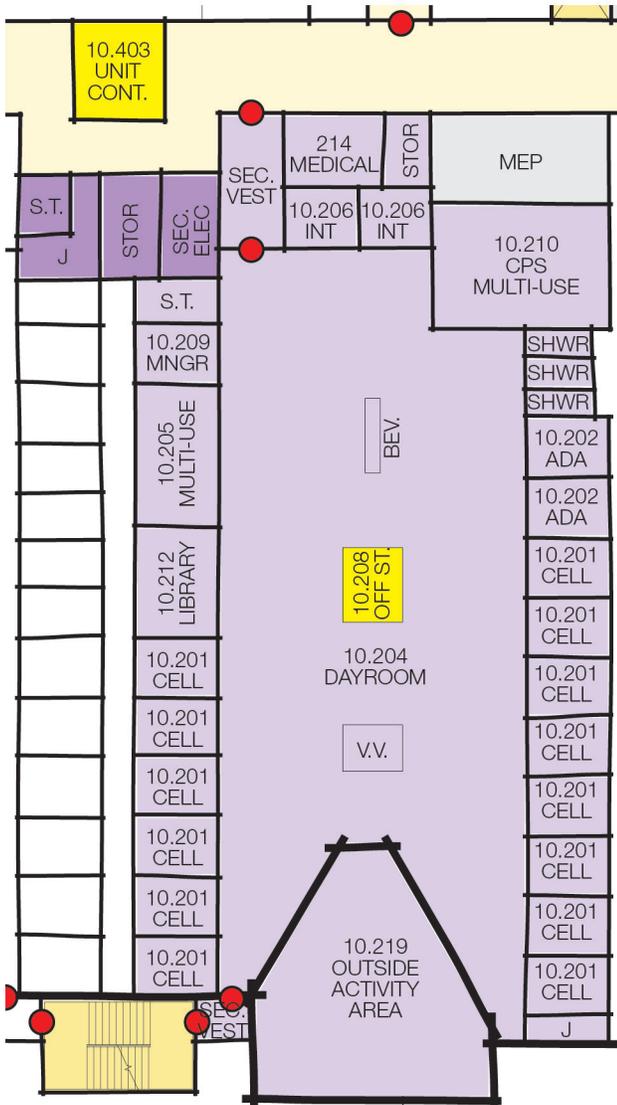
Limited shared functions such as a control room, security electronics, staff toilet, and storage are separate from each housing group. Each housing unit will have a secure enclosure which will be defined as a six-sided box, with all sides meeting the same security requirements. Penetrations of the secure enclosure are limited and controlled.

Twelve Medium/Minimum security housing units are located on the third and fourth floors of the building. The third floor includes two movement control stations, with one on the fourth floor. The primary means of access to these floors is by way of elevators, each of which is oversized for safety purposes. A freight elevator serves each floor as well. Emergency exit stairs are included for evacuation and emergency response purposes.

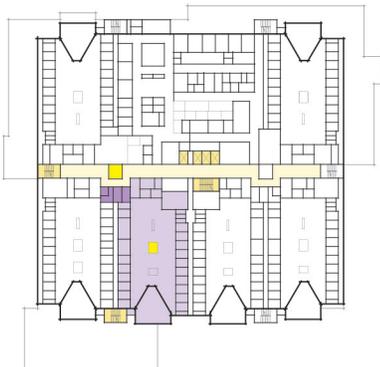
The program space lists and conceptual floor plan diagrams follow:

Space #	Space Name	Net Usable Square Feet	Grossing Factor	Departmental Gross Square Feet	Total Area (DGSF)
10.0 HOUSING					
Special Management Housing					
10.100	Male Maximum Security Inmates - 2 Modules of 36 Cell (72 rated beds)	13,360	55%	7,348	20,708
10.200	Special Needs Inmates - 1 Modules of 36 Cell (36 rated beds)	6,680	55%	3,674	10,354
10.300	Acute Mental Health 18 Single bunks (Single level)	3,520	55%	1,936	5,456
10.320	Mental Health Suicide Watch 18 Single bunks (Single Level)	3,905	55%	2,148	6,053
10.340	Mental Health Stepdown Inmates - 1 Modules of 36 Cell (Double Bunk) and Mental Health Core	9,296	55%	5,113	14,409
10.400	Special Management / Mental Health Unit Center (2 Centers)	830	30%	249	1,079
Male Medium / Minimum Security Inmates					
10.500	Male Medium / Minimum Security Inmates - 12 modules of 36 Double Occupied Cells (864 Rated Beds)	88,320	55%	48,576	136,896
10.600	Medium Custody Unit Center - Typical for 4 Living Modules (3 Centers)	2,310	30%	693	3,003
TOTAL AREA (NSF) HOUSING		128,221			
TOTAL AREA (DGSF) HOUSING					197,958

Table 4-10: Male inmate housing program space list.



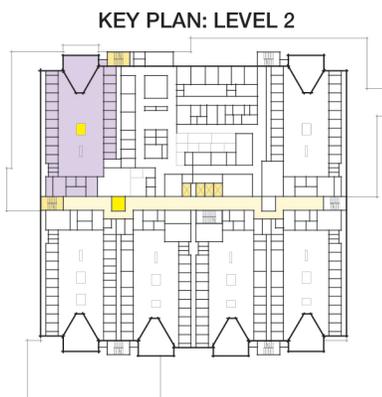
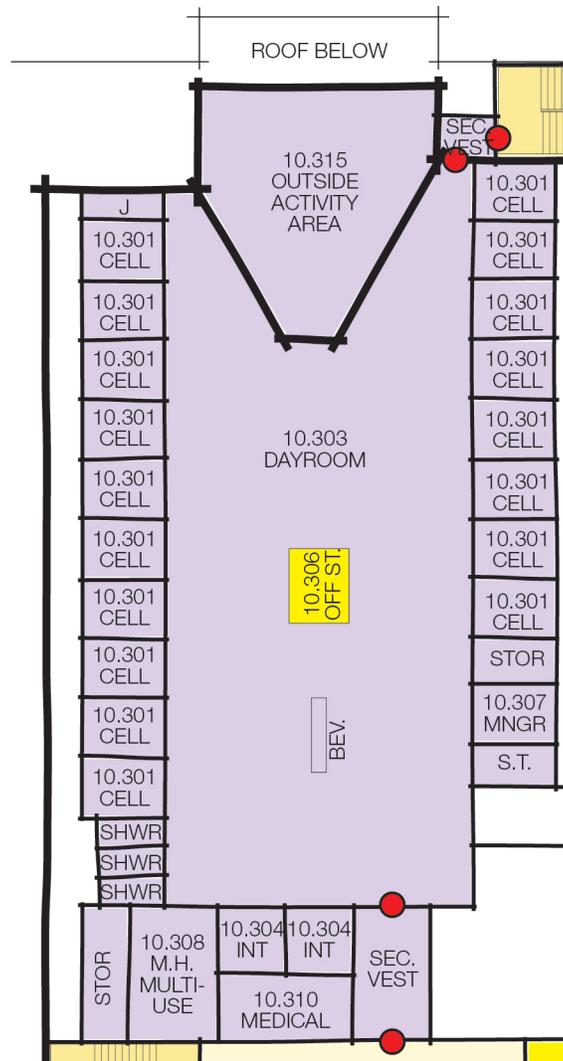
KEY PLAN: LEVEL 2



LEGEND

- 10.200 SPECIAL NEEDS
- 10.400 SPECIAL MANAGEMENT/ M.H. UNIT CORE
- ACO STATION
- CIRCULATION
- VERTICAL CIRCULATION
- CONTROLLED DOOR
- WALLS
- AREA SEPARATION

Figure 4-12: Functional diagram for Special Needs inmate housing.



- LEGEND**
- 10.300 ACUTE MENTAL HEALTH
 - 10.400 SPECIAL MANAGEMENT/ M.H. UNIT CORE
 - ACO STATION
 - CIRCULATION
 - VERTICAL CIRCULATION
 - CONTROLLED DOOR
 - WALLS
 - AREA SEPARATION

Figure 4-13: Functional diagram for Acute Mental Health inmate housing.

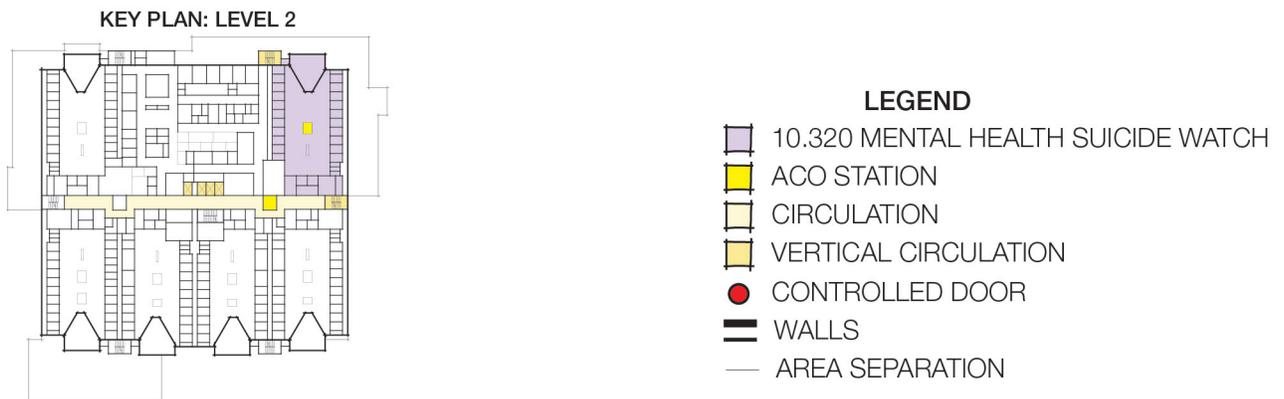
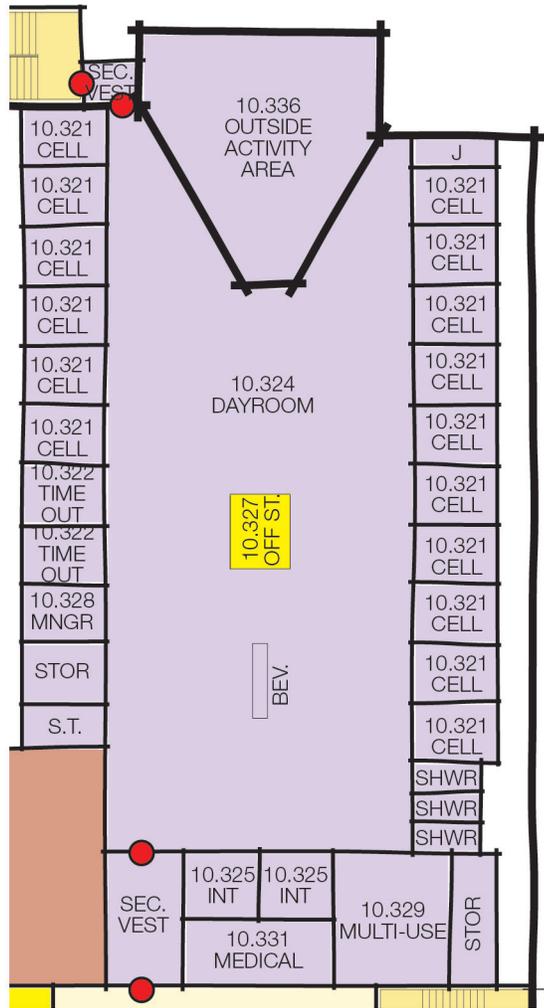
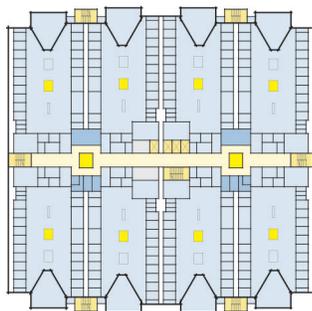


Figure 4-14: Functional diagram for Suicide Watch inmate housing.



KEY PLAN: TYPICAL HOUSING



LEGEND

- 10.500 MEDIUM/ MINIMUM SECURITY
- 10.600 MEDIUM/ MINIMUM SECURITY UNIT CORE
- ACO STATION
- CIRCULATION
- VERTICAL CIRCULATION
- CONTROLLED DOOR
- WALLS
- AREA SEPARATION

Figure 4-16: Functional diagram for Medium Security inmate housing.

11. Male Pre-Release Facility

Pre-Release is a relatively low security facility that will be located outside of the OCCC secure perimeter. While it is separate, it will rely on the new OCCC detention facility for services such as maintenance, food service, and medical care. The Pre-Release facility will include most functions of a typical correctional facility. The administration area will house offices for the administrator and support staff as well as the Custody Chief. All of these areas will be located next to the public lobby.

Program services provided for Pre-Release inmates will be fairly intensive, preparing them for re-entry into the community. Space will be provided for educational, vocational, and treatment programs. Academic and computer literacy classrooms will be provided at this central location. Offices for PSD staff and workstations for visiting outside service providers are included. Substance abuse treatment/group programs will be provided as well.

Some or all of the inmates located at the Pre-Release facility may be on Work Furlough programs. As they return to the facility at the end of the work day, they will pass through screening prior to re-entering their respective housing units. The entry area will include lockers, search rooms, property storage, and the community release office.

The Pre-Release housing will be arranged into 48-bed units with 4-person sleeping rooms that are 'dry', meaning that inmates will leave their sleeping rooms to use the toilet, groom and shower. Handicapped accessibility will be provided. Each sleeping room will include bunks, writing/seating areas, and personal storage areas, with 25 square feet of unencumbered space provided for each inmate that sleeps in the room per ACA Standards. Showers, lavatories, and toilets/urinals will be centralized and accessible from the unit dayroom.

The program space list is shown in Table 4-11 and plan diagrams follow on the subsequent page.

Space #	Space Name	Net Usable Square Feet	Grossing Factor	Departmental Gross Square Feet	Total Area (DGSF)
11.0 PRE-RELEASE CENTER					
11.100	Public Lobby / Visitation	1,795	45%	808	2,603
11.200	Administration Area	5,323	45%	2,800	9,023
11.300	Program Services	6,005	45%	2,702	8,707
11.400	Male Pre-Release (Six Units)	10,290 (1,715/unit)	50%	5,145	15,435
11.500	Male Housing (48 beds/unit)	30,750 (5,125/unit)	65%	19,988	50,738
TOTAL AREA (NSF) PRE-RELEASE		54,163			
TOTAL AREA (DGSF) PRE-RELEASE					85,201

Table 4-11: Male Pre-Release Facility program space list.

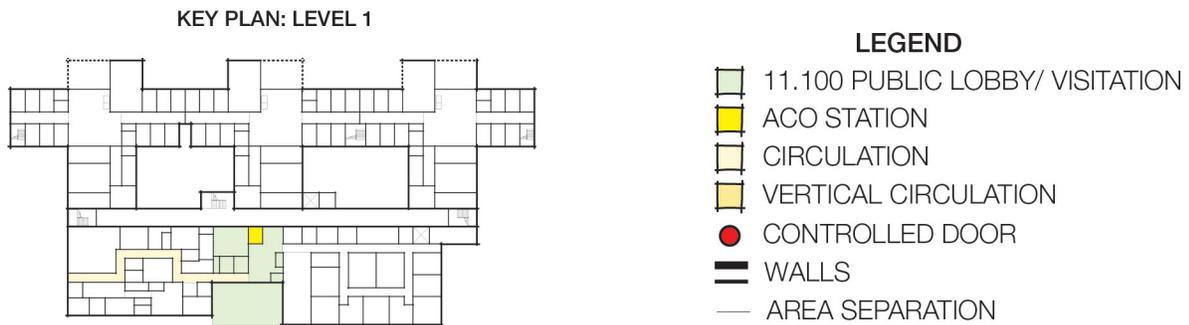
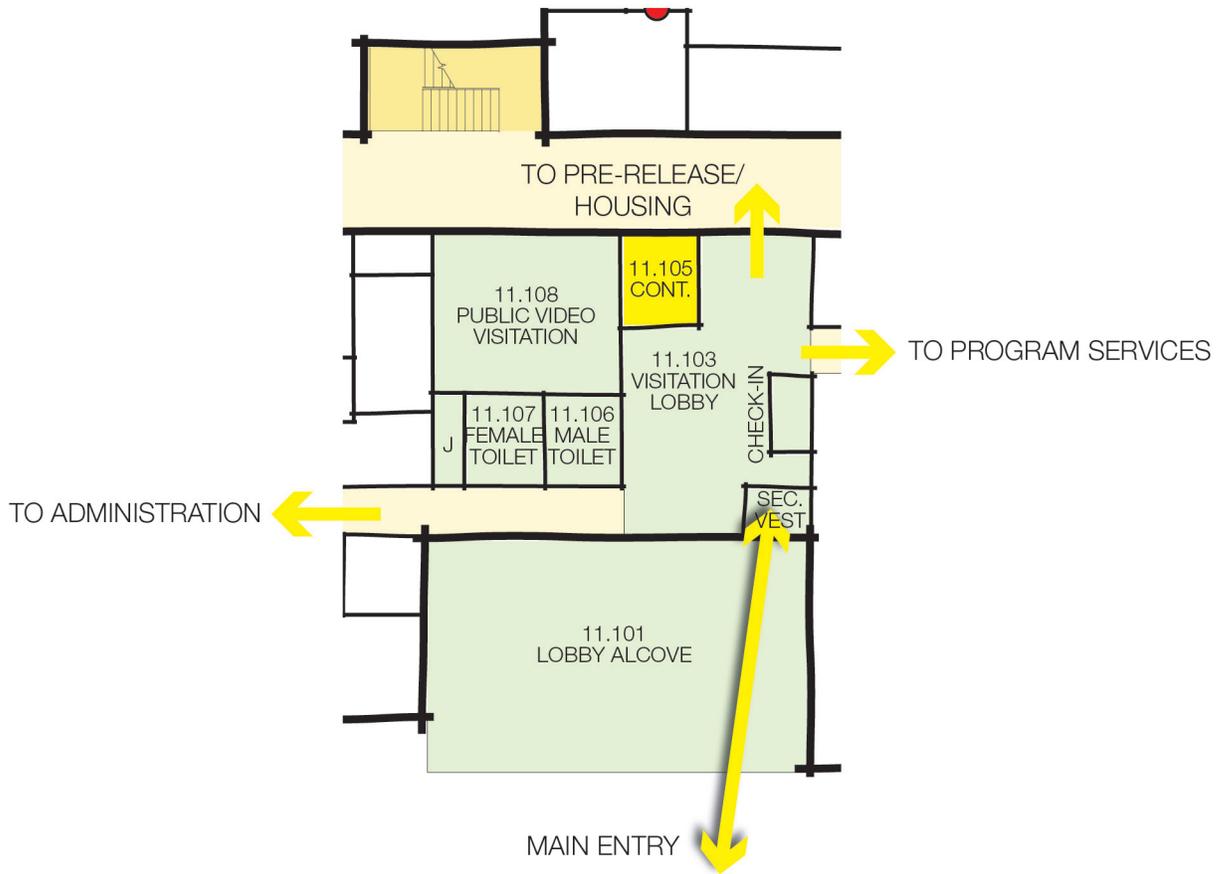


Figure 4-17: Functional diagram for the Lobby and Visitation areas of the Pre-Release Facility.

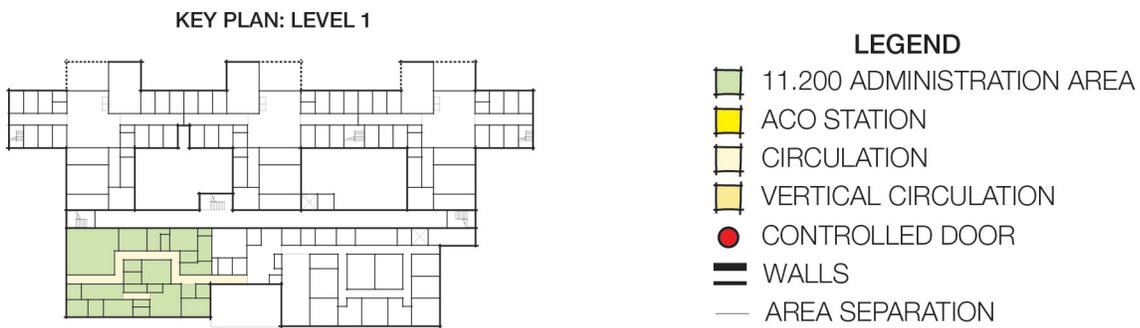
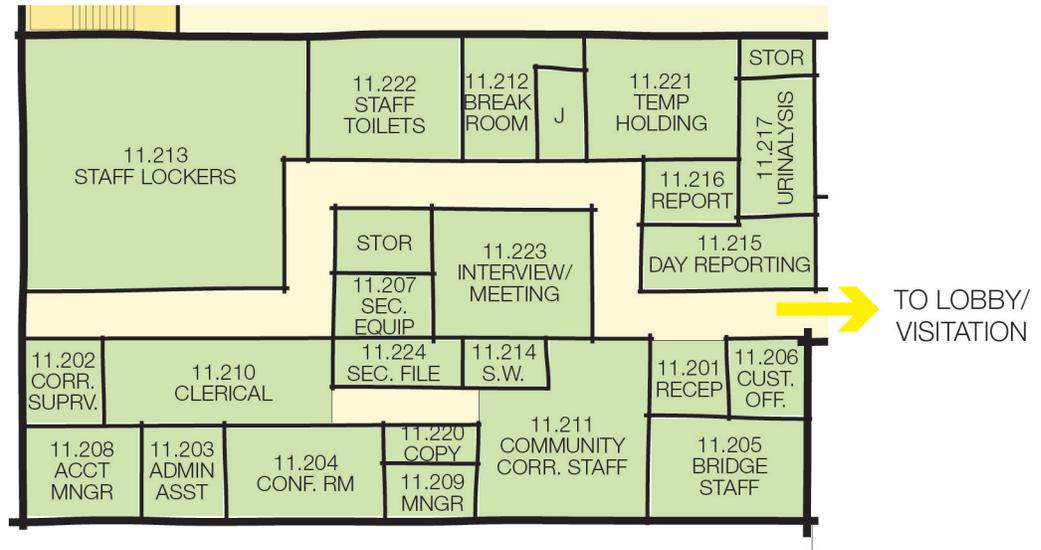


Figure 4-18: Functional diagram for the Administration area of the Pre-Release Facility.

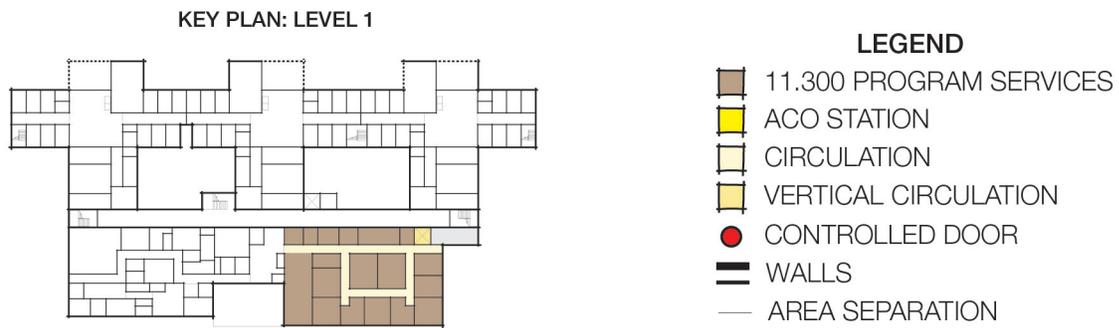
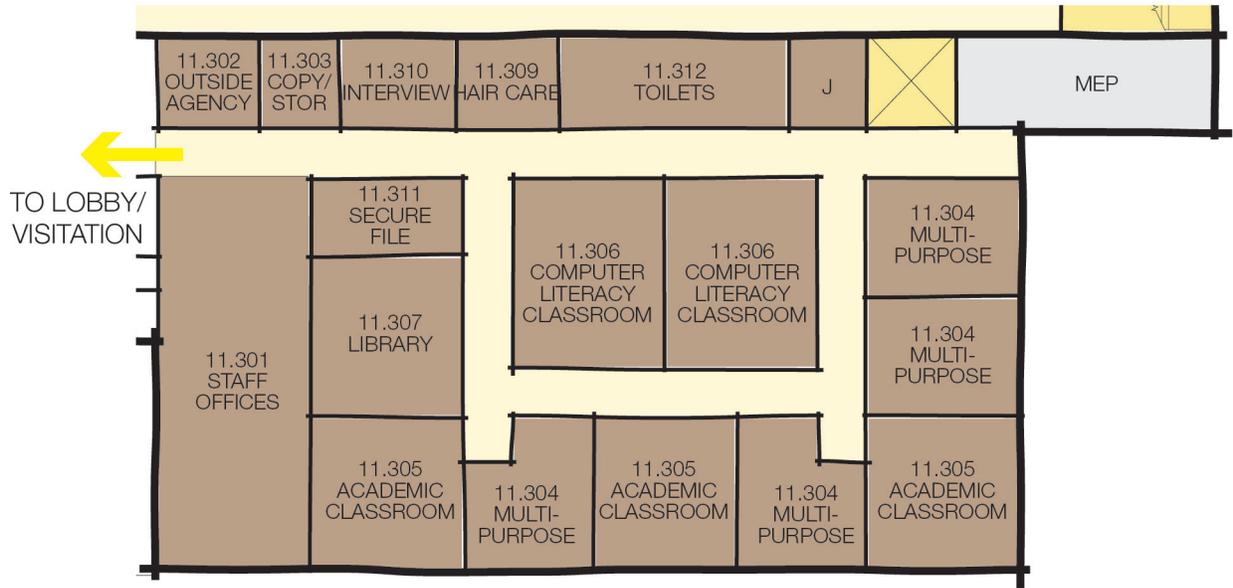


Figure 4-19: Functional diagram for the Program Services area of the Pre-Release Facility.

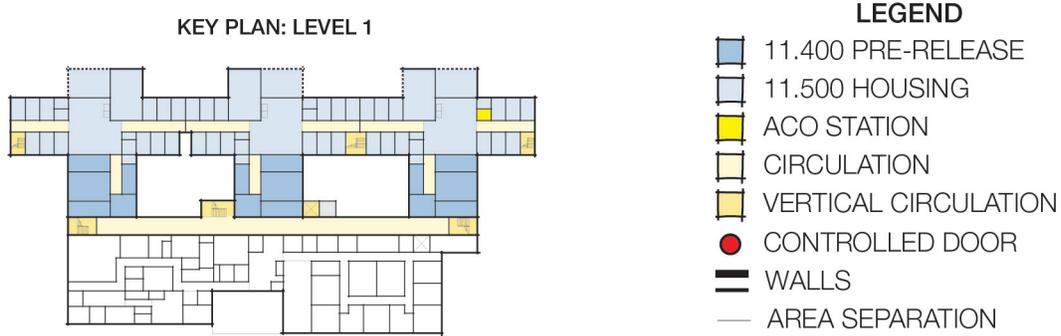


Figure 4-20: Functional diagram for the Housing area of the Pre-Release Facility.

4.3 PROPOSED SITE LAYOUT

The AQS site is large enough that the Pre-Release Facility can be a separate structure from the Detention Facility, allowing each building to be constructed to the appropriate security standards. The site is also large enough that the entire facility can potentially be constructed at the same time, making construction phasing unnecessary. However, it may prove beneficial or necessary to phase or stagger construction; refer to Chapter 6 for further discussion on this. Some construction sequencing may also be required so that the existing Animal Quarantine Station operations can be maintained for as long as possible during construction. Most of the existing AQS facilities will be demolished prior to commencing with the new construction.

All construction for the new OCCC facility will be restricted to the approximately 25-acre area east of the H-3 highway that bisects the site. Any portion of the site sitting to the west of the highway

will be reserved for the future Animal Quarantine Station. The following site plan shows the proposed Detention facility located in the southwest corner of the site with the Pre-Release building placed to the immediate north (Figure 4-21). As illustrated by the dashed red boundary, a portion of the property which is currently being used for AQS functions is owned by the U.S. Navy. Although the State of Hawaii is working with the U.S. Navy to allow for the use of this parcel, care has been taken to keep vertical construction off of this area to ensure that the site can still function without its use. As such, only parking and a portion of the proposed service yard fall within the Navy boundary. Also shown is a red-dashed setback line, marking a 148' offset from an existing Navy fence line. Nothing will be built within this setback. Refer to Chapter 3 for further discussion on Navy land ownership.

Detention Facility

The Detention Center will have four levels, which will require elevators for the movement of staff,



Figure 4-21: Proposed site plan for the future OCCC at the AQS site.

inmates, and services throughout the building. Administration, ITR, ISC, Visiting, Inmate Programs, Food Service and Laundry will be located on the ground level (Figure 4-22). Located on the second floor are Medical Services, Maximum Security Housing, Special Needs Housing, Acute Mental Health Housing, and Mental Health Stepdown Housing (Figures 4-23 and 4-24). The third and fourth floors contain Medium/Minimum Security Housing (Figure 4-25 through 4-28). A mechanical penthouse will occupy a portion of the roof. Staff

and public will enter the Detention Center from the north; service access is from the east. The Vehicle Sally Port is placed on the southwest corner of the building. Roadway access on all sides of the building is provided for security and firefighting purposes. The Detention Facility requires staff positions to be located throughout the building to monitor/control movement. Other staff positions are distributed throughout the functional areas depending on the space use; these are further outlined in the program.

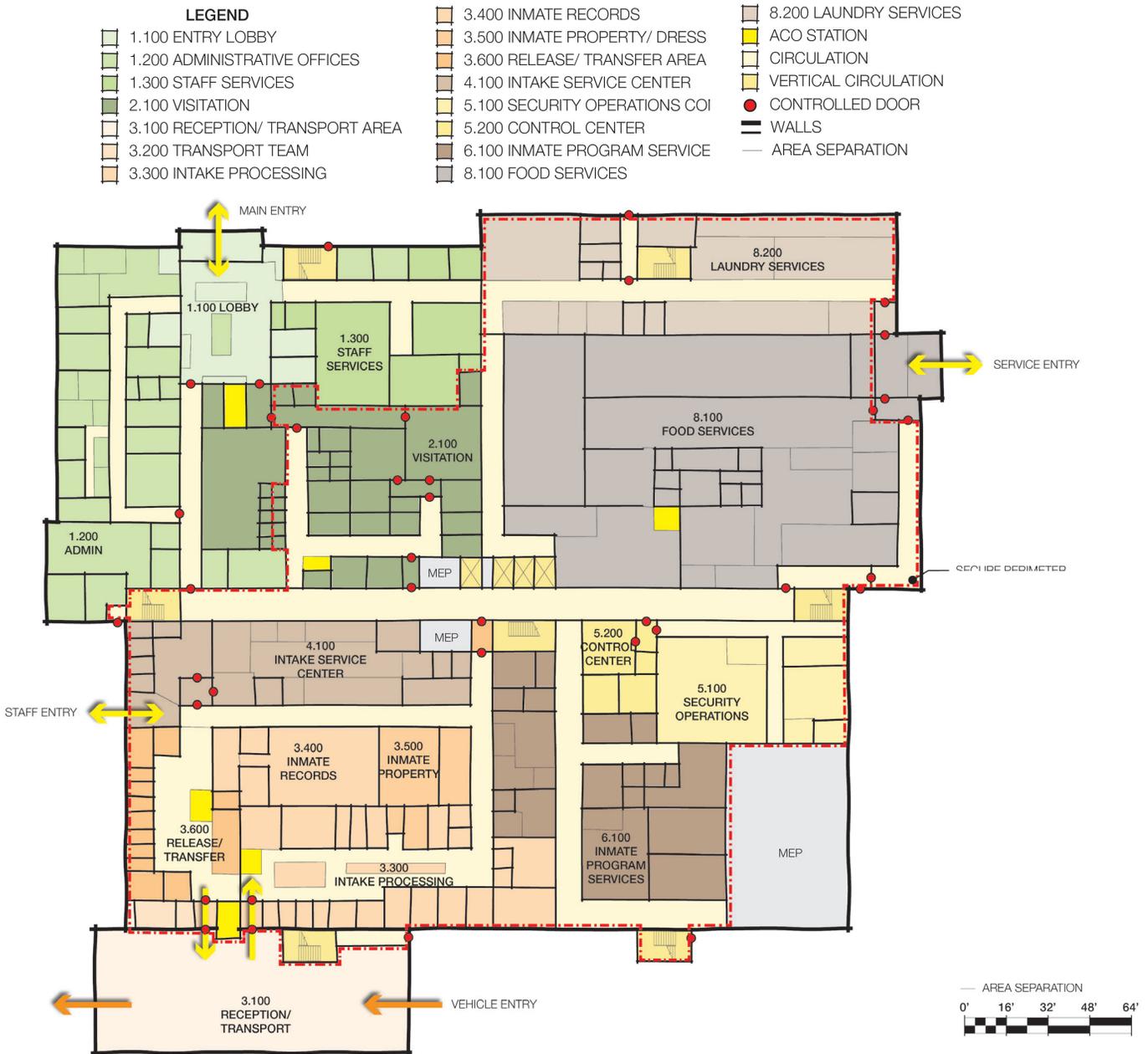


Figure 4-22: Conceptual ground level diagram of the Detention Center at OCCC.



Figure 4-23: Conceptual second level diagram of the Detention Center at OCCC.



Figure 4-24: Conceptual second level mezzanine diagram of the Detention Center at OCCC.

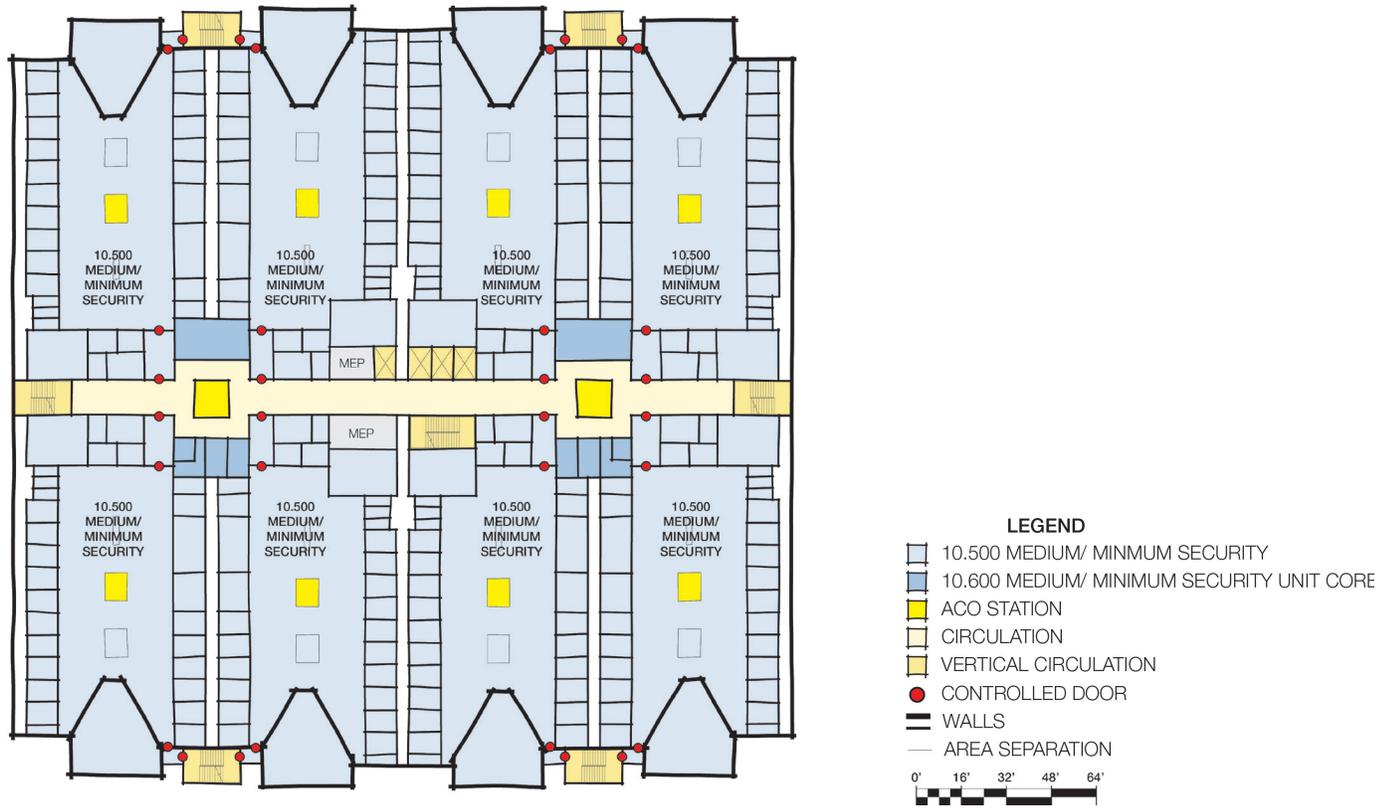


Figure 4-25: Conceptual third level diagram of the Detention Center at OCCC.

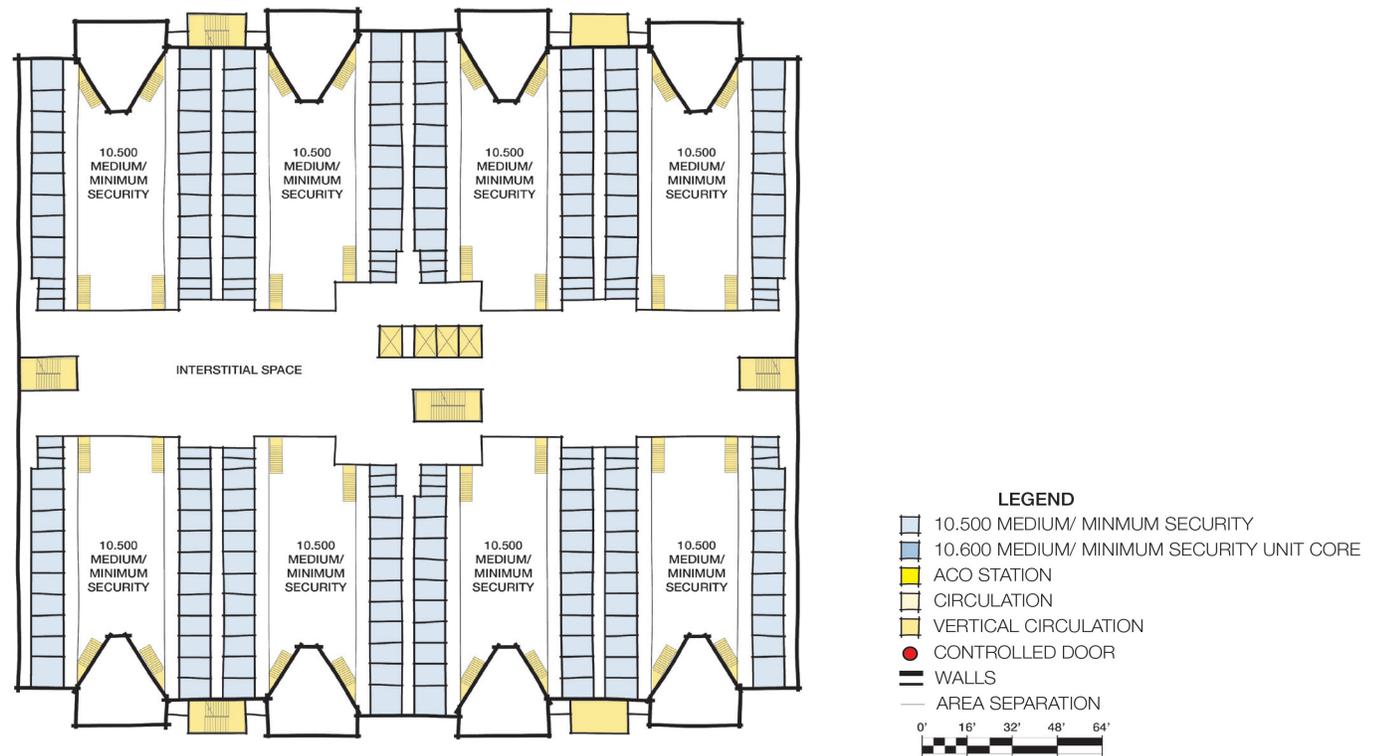


Figure 4-26: Conceptual third level mezzanine diagram of the Detention Center at OCCC.

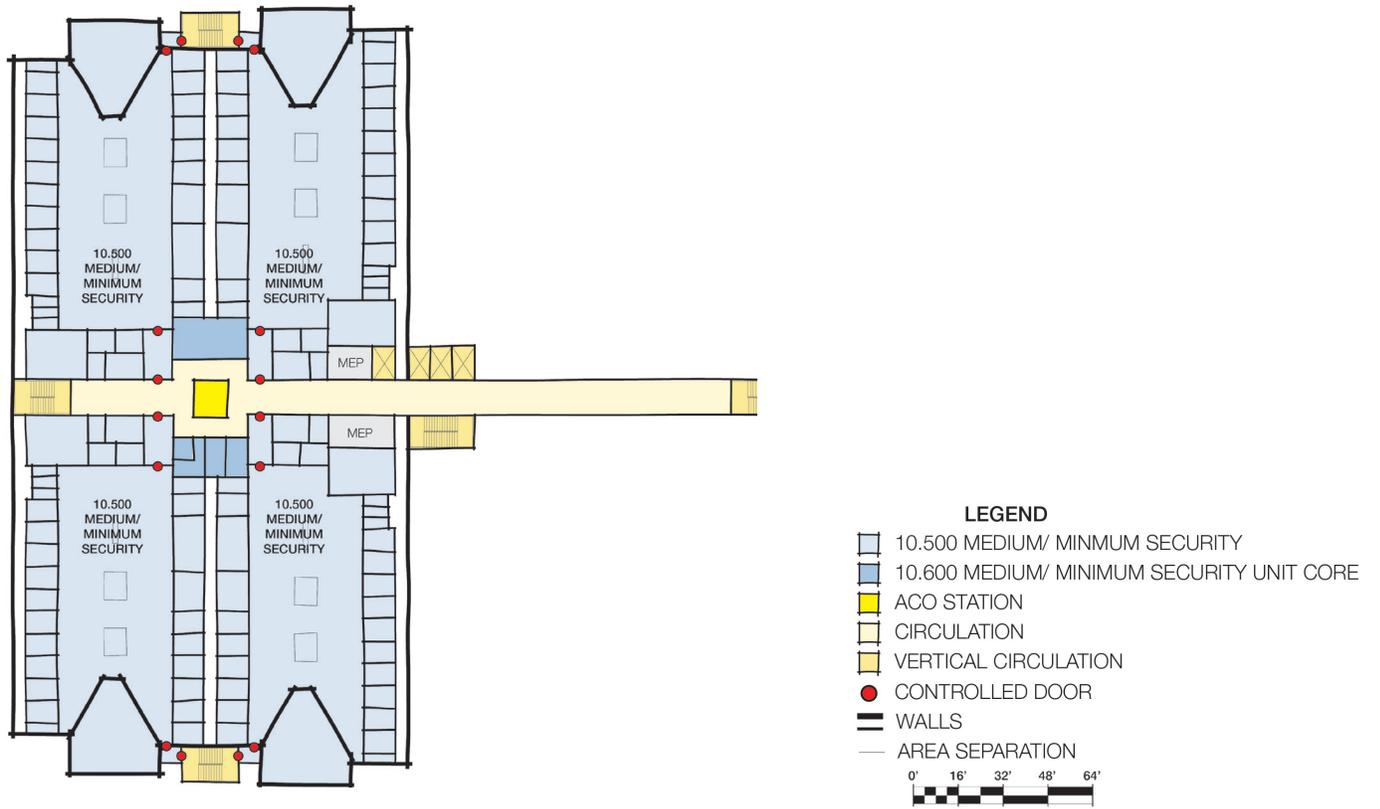


Figure 4-27: Conceptual fourth level diagram of the Detention Center at OCCC.

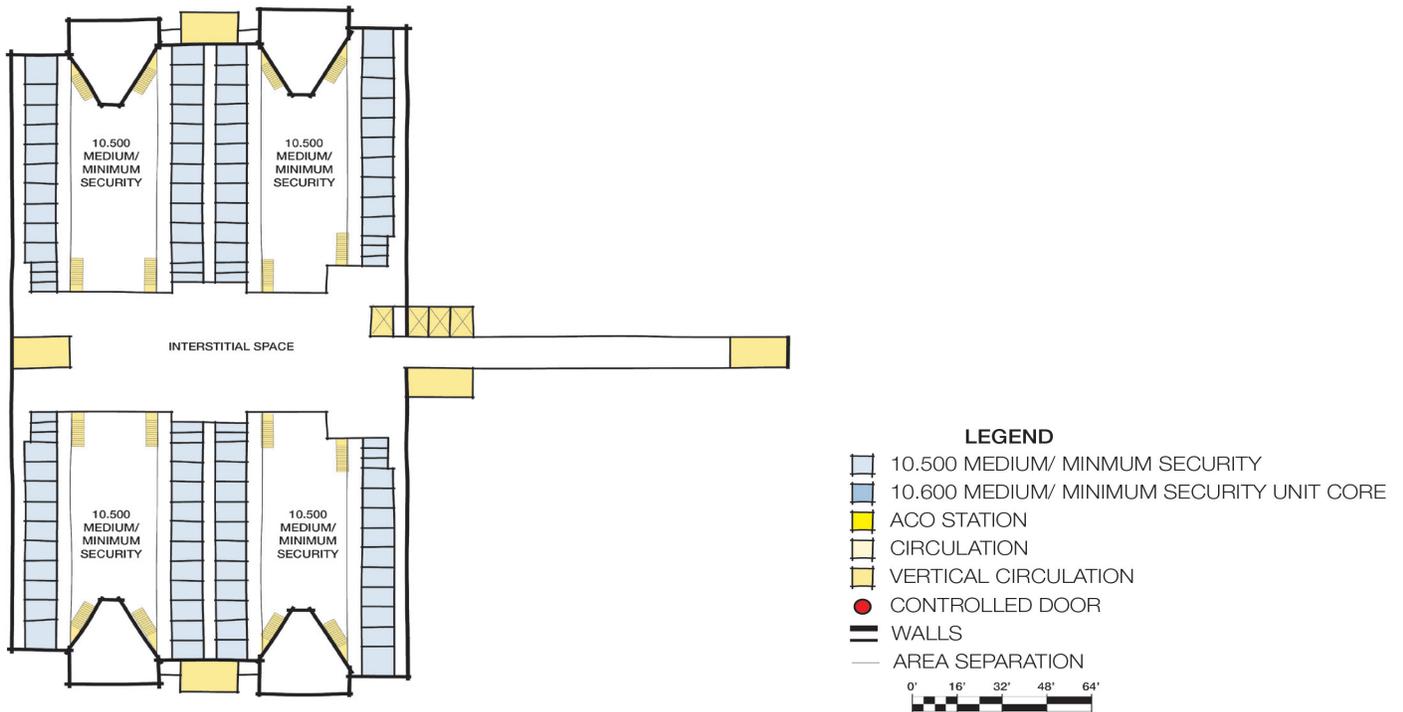


Figure 4-28: Conceptual fourth level mezzanine diagram of the Detention Center at OCCC.

Pre-Release Facility

The Pre-Release Facility will be two levels high (levels one and two are shown in Figures 4-29 and 4-30 respectively), which limits the amount of vertical movement required - vertical movement of inmates and staff does not depend on an elevator. However, elevators are included to move food and disabled persons from the ground floor to the upper level. Staff, public, and inmates enter the Pre-Release Facility from the south. A service entry is placed on the east end of the building. The Pre-Release Facility can be a relatively low security building, located outside of the OCCC perimeter. While it is separate, it will rely on OCCC for services such as food service and medical care. When needed, pre-release inmates will visit the clinic at OCCC. If plans change, and this facility is constructed at a more significant distance from OCCC, additional accommodations will be required in order to transport pre-release inmates.

Because of the site's size and proposed layout, future expansion should be possible. The proposed layout of the Pre-Release building would allow for a linear expansion, making an increase in inmate housing convenient without major disruption to the operation of the facility. The expansion of the Detention Facility will be more complex and may require the conversion of the main parking lot to structured parking to free up additional site area. Future expansion should be a factor for consideration as design moves forward.



Figure 4-29: Conceptual ground floor level of the Pre-Release Facility at OCCC.

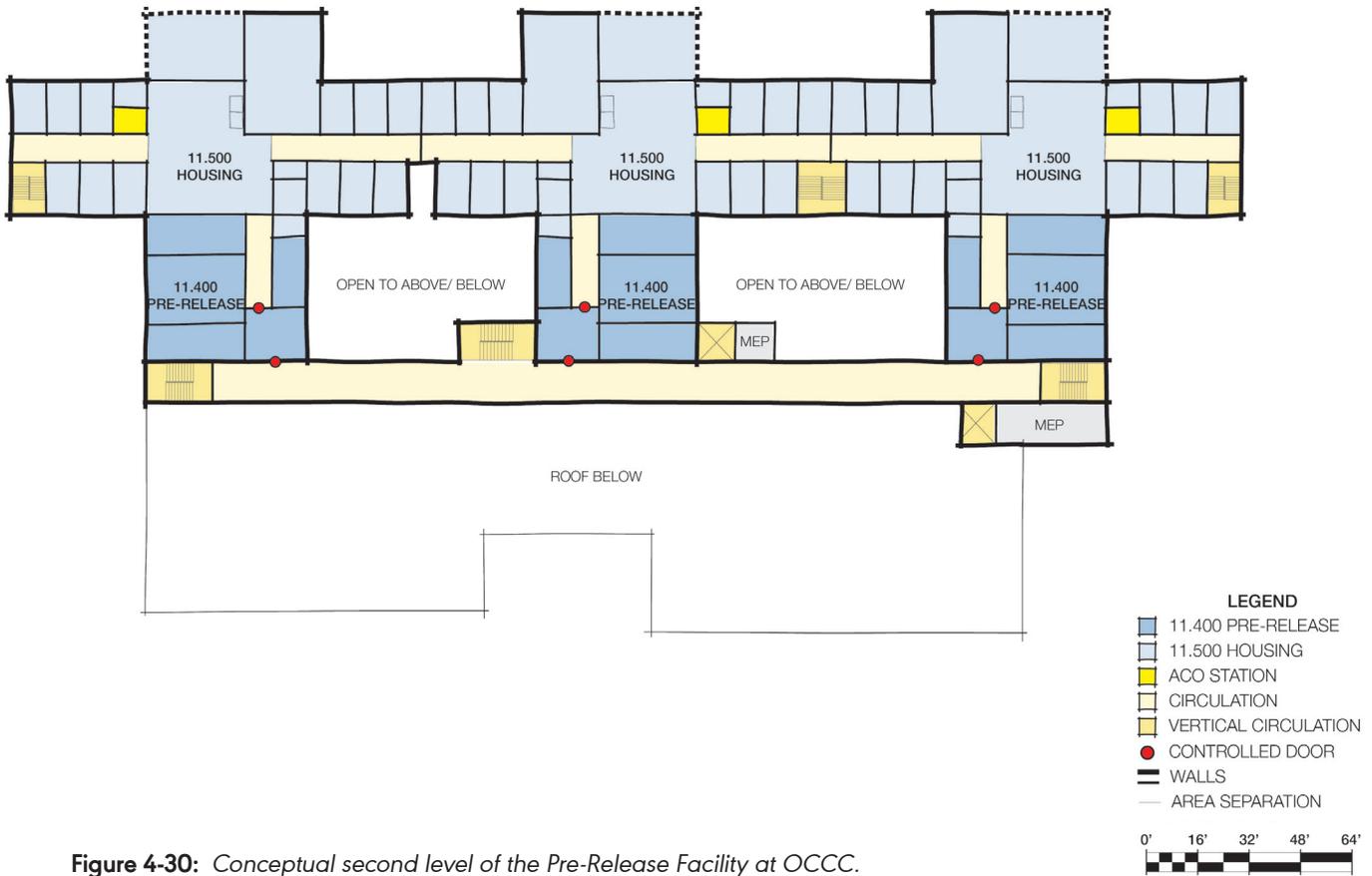


Figure 4-30: Conceptual second level of the Pre-Release Facility at OCCC.

Anticipated Site Elements

Site work will include construction of roads for building and parking access, service and emergency roads, paved parking lots, walkways, curbs, bollards, and landscaped areas. Retaining walls and tiered site elements are anticipated due to existing site topography.

A new driveway is proposed that would connect the project site to the northern section of Halawa Valley Street, which would serve as the primary access point to the new OCCC facilities. The existing driveway to the west of the site is not expected to be used for OCCC site access, but will continue to serve as the entry and exit for all functions located on the west side of the site. However, this drive will be available as a secondary exit for the OCCC site, should the need arise. Access to this driveway will be regulated by a security gate. New internal access roads will provide circulation to the new OCCC buildings and parking lots, and will include a continuous perimeter road for security and fire access purposes.

A new on-grade parking lot will be constructed to the east of the proposed detention and pre-release buildings, which will provide the primary parking for staff members. This parking may be supplemented in the future by an additional staff parking lot located directly west of the Detention Facility, as shown on the proposed site plan. Visitor parking will be located in the existing parking lot underneath the H-3 overpass that bisects the site. This parking lot will need to be repaved and striped.

Walkways will be aligned to provide access routes to the proposed main entrances to the Detention Center and Pre-Release buildings, and to facilitate direct movement from public and staff parking areas. A covered walkway that functions as a service connection should be considered to connect the Detention Center to the Pre-Release Building. The layout, dimensions, longitudinal and cross slopes of ADA walkways and ramps must comply with ADA Accessibility Guidelines.

A concrete pavement service yard is planned which will be used for deliveries as well as support

for the physical plant containing the mechanical and electrical equipment necessary to support the site. Access to the service yard will be through vehicle Sallyports that will be remotely controlled and monitored from the Detention Center Central Control.

New driveways, internal access roads, walk ways and parking lot layouts for the proposed project will be designed to meet applicable State and City requirements. Circulation walkways and parking lots will be designed and constructed in compliance with ADA. Accessibility Guidelines to the maximum extent practicable. As the initial development phase progresses and site plans are further developed, consultation with the appropriate jurisdictions will be needed to coordinate and determine vehicular driveway and crosswalk locations, pedestrian sidewalk requirements, bicycle facilities, and emergency vehicle access lanes.

Site Security Considerations

Although the secure perimeter will be the building envelope, the site will have a property line fence with signage restricting access. The roadways, walkways, parking lots, and buildings will be illuminated at night. Lighting levels around the buildings will be determined based on security and safety purposes; lighting will also require shielding to prevent disorientation of migratory birds. Video monitoring will be provided for areas around the buildings and covering the parking lot. Coordination with Navy security personnel will be required to ensure that windows and outdoor security cameras do not view critical Navy operations. An emergency siren will be placed in the parking lot.

OCCC site security and life-safety will address site vulnerability and offer a baseline level of protection to facility assets. In general, physical security and operational measures will be based on creation of successive rings of protection. The first line of security will be the secure perimeter mitigating vehicle intrusion onto the site and unauthorized pedestrian movement in the areas around the buildings. The next line of security is the exterior envelope of the building, and the third line of security is the internal divisions separating unsecured and secured interior building space.

For all facility protection levels, the potential of physical damage and personal injuries are considered in the design. The intent of the criteria is to limit rather than to eliminate damage in an effort to accomplish the objective of saving lives and protecting vital facility operations in the unlikely event of an attack, while also minimizing the potential of disproportionate structural collapse. Adequate site security will also help to eliminate the introduction of contraband and increase general public safety. Additional security recommendations include the following:

- Minimize signage that draws attention to the OCCC site and its intended function.
- Maintain a minimum defensible perimeter of 30 feet surrounding the building, as air-blast pressures due to explosive devices decrease rapidly with distance.
- Because building construction is paramount to providing effective protection, structural hardening should be considered as the last level of defense to save lives and facilitate evacuation and rescue by preventing building collapse and limiting flying debris.
- Create a continuous line of site features that will deter vehicle intrusions and mitigate impact hazards associated with vehicles traveling at high speeds along a direct line of approach. This can best be accomplished by incorporating passive vehicle barriers (i.e. bollards, knee-walls, planters, berms, and ditches) into landscaping.
- Provide access-control devices to secure adjacent staff parking and roadways.
- Minimize unsecured visitor parking within 50 feet of occupied buildings.
- Provide clear wayfinding to direct pedestrian movement on site, as well as visual deterrents to restrict undesired pedestrian access.
- Incorporate Crime Prevention Through Environmental Design (CPTED) through sensible landscape design. This includes avoiding landscaping features that create areas of concealment within 20 feet of the building exterior, and which may hinder video surveillance efforts around the site.

4.4 PRELIMINARY ENGINEERING ASSESSMENT

A preliminary engineering assessment was conducted to provide an initial evaluation of the AQS site related to the civil infrastructure and utility systems necessary for the replacement of OCCC. See Appendix F and Appendix G for more information on the anticipated utility and infrastructure requirements for this site.

Storm Drainage System

Drainage improvements and runoff flow rates for the proposed condition will be determined based on the CCH Rules Relating to Storm Drainage Standards. Increase in runoff due to the proposed improvements will need to be retained on-site to ensure that the project will not have any adverse effects on downstream properties. The proposed on-site storm drainage system will consist of a system of drain inlets, drain manholes, and underground piping (Figure 4-31). A storm water retention basin is proposed to the west of the Detention Facility to accommodate the increase in storm water runoff generated by the proposed improvements. Low Impact Development (LID) measures which promote on-site infiltration are

recommended to further reduce the storm water runoff quantity leaving the project site.

Best Management Practices (BMP) will be implemented during construction to help prevent polluted runoff from entering into the area’s storm drainage system. Temporary erosion control measures will be installed prior to any demolition or construction activities. Structural BMPs must include silt fence, filter sock, stabilized construction ingress/egress, concrete wash-out area, and sediment control filters at drain inlets and catch basins. BMPs used shall comply with the local governing agencies.

Water Supply System

In June 2017, a letter was submitted to the BWS requesting information on the availability of water for the project and water pressure information for fire hydrants in the vicinity of the site. The inquiry was based on the program information provided by PSD and the estimated average daily water demand based on 25 gallons per day for staff, 125 gallons per day for inmates, and 75 gallons per day for kennels. BWS responded stating that based on current data, the existing water system is adequate to accommodate the proposed development. The

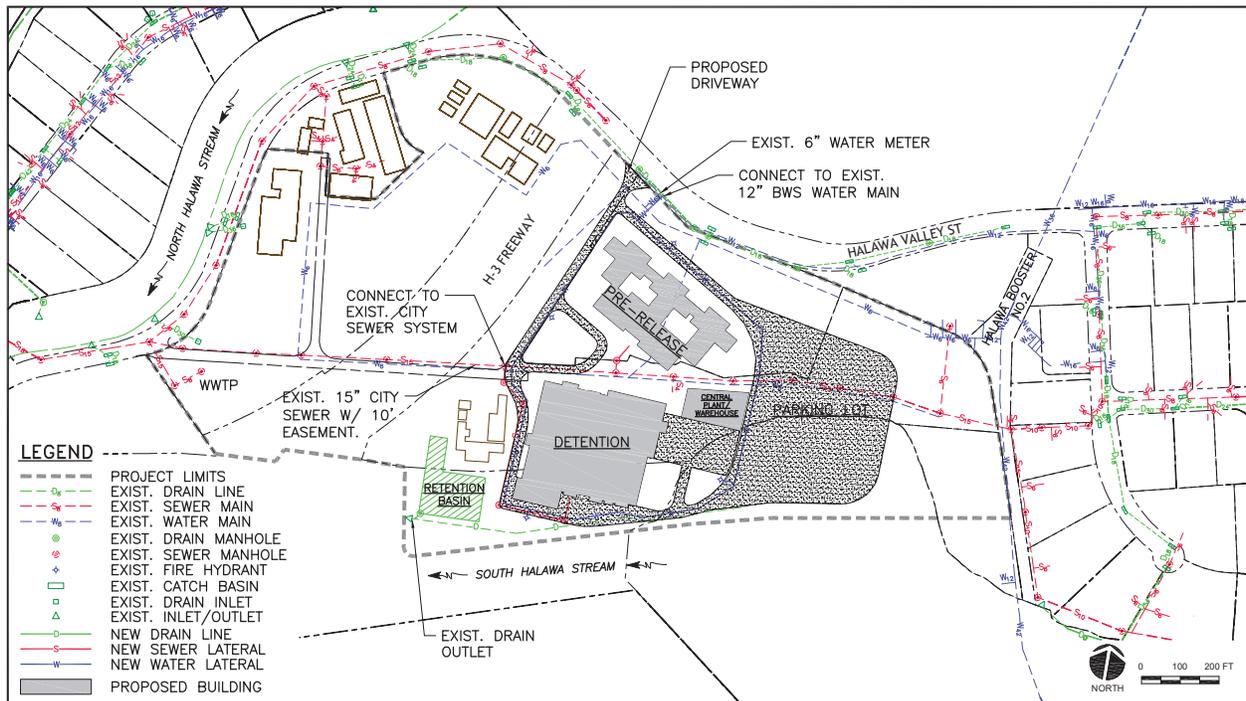


Figure 4-31: Proposed water and sewer improvements to the AQS site.

final decision on the availability of water, however, will be made when the building permit application is submitted for approval.

On-site water system improvements required to support the proposed improvements will consist of new water meters as required to provide domestic and fire protection water service, backflow preventers, valves, and underground piping (shown in Figure 4-31). Water connections to the existing BWS system are anticipated to be from the existing 12-inch water main within Halawa Valley Street. This will be confirmed when construction plans for the proposed project are submitted to BWS for review and approval. New fire hydrants and fire access roads will be provided as required to ensure adequate fire protection for the proposed buildings.

The proposed improvement may have the opportunity to utilize the existing 6-inch water laterals currently servicing the project site. The exact locations and feasibility of using the existing laterals will need to be coordinated during the design phase of the project. If the existing lateral cannot be reused, new water laterals will need to be designed and constructed. Validation of the existing 6-inch meter size will also need to be conducted.

Wastewater Collection System

The DPP Wastewater Branch (WWB) reviews and approves sewer connection applications for developments which require sanitary sewer service. A preliminary sewer connection application for the AQS site based on the preliminary program was submitted to the WWB. In June 2017, the WWB approved the sewer connection application, with the condition that under this approval the OCCC relocation to the HCF site would not have an approved sewer application (and vice versa). This approval for the AQS site indicates that the existing City wastewater system is adequate to support the proposed project. Approved applications are valid for 2 years from the date of approval and construction plans approved within that period.

Sewage flows from the improvements will be collected by new sewer lines running on the south side of the building and then turning north to

the existing 15-inch line running through the site (shown in Figure 4-31). The proposed on-site sewer improvements will consist of new sewer manholes, cleanouts, and underground piping to provide lateral connections to the new buildings. New sewer lateral locations and sizes will be verified during the design phase. Trenching and backfilling of proposed sewer lines will follow CCH standards and the Soils Engineer's recommendations. As a security measure, a sewage grinder will be installed prior to the City connection to handle the contraband, trash, and foreign objects frequently flushed into the sewer system by inmates.

Natural Gas

If the proposed redevelopment requires gas service, on-site liquefied petroleum gas tanks (LPG or propane) will be installed. The proposed natural gas demand load for the project will need to be calculated by the project's mechanical engineering consultant during the design phase.

Electrical (Power) System

A request for information letter was sent to HEC0 in April 2017 to verify the available capacity of their existing facilities. This request was based on the preliminary assumption of a 432,100 square foot facility. HEC0 responded via email in June 2017 stating that the existing 12 kV circuits in the project area should have sufficient capacity to meet the anticipated demands for the proposed OCCC facility. Based on this initial evaluation, no significant off-site utility improvements are anticipated as part of this project. If the utility companies determine the need to modify the existing overhead pole lines and conductors along Halawa Valley Road, it will be the responsibility of the utility companies to do so. Possible off-site work could consist of extending underground duct lines to the site from the utility company connection points along Halawa Valley Road. HEC0 will perform a detailed evaluation of existing circuit capacity when a service request for the facility is submitted to HEC0 during the design phase.

New underground infrastructure, consisting of ductlines, manholes and/or handholes, will be provided from the existing HEC0 12 kV overhead circuits along Halawa Valley Street to the OCCC

site. The underground infrastructure will extend from a riser pole adjacent to the project site to two new HECO pad mounted transformers and switches, located on the OCCC site, to support the project loads associated with the various buildings and facilities proposed for development. One set will be located near the central plant and the other set will be located near the detention building. A minimum 10' wide vehicular access must be provided to the pad mounted equipment.

All duct lines should be concrete encased with 24" minimum cover. As indicated in Figure 4-32, utilities are shown running parallel with the access roads. This is probably the most conservative alignment, since there should not be sharp changes in grade along the roads. PSD prefers to have two separate utility meters - one for the OCCC facility and one for the pre-release facility. An emergency generator will be included to support the power for the entire facility (OCCC and Pre-Release) if the power is out as required.

Electrical rooms will be located throughout the future OCCC facility. The primary electric room

is to be located on the ground floor of the facility and is recommended to be approximately 25' x 15'. Secondary electric rooms will be dispersed throughout the building. It is preferable for each electric room to be stacked vertically on each floor, centrally located (i.e. not at the perimeter of the building), with a maximum of 200 linear feet horizontally from the perimeter of the buildings, and 400 linear feet horizontally (on center) between electrical rooms. PSD recommends incorporating a central uninterruptible power supply (UPS) and an associated UPS distribution system as opposed to small independent, plug-in UPS units supplied as part of the workstation assemblies or equipment racks.

There are many opportunities to utilize sustainable practices in electrical utilities on the future OCCC site. A few recommended options are the use of LED lighting, energy efficient lighting controls such as daylighting, occupancy sensors, and the use of PV panels which could be mounted on canopies over on-grade parking (and in turn provide shading to vehicles).

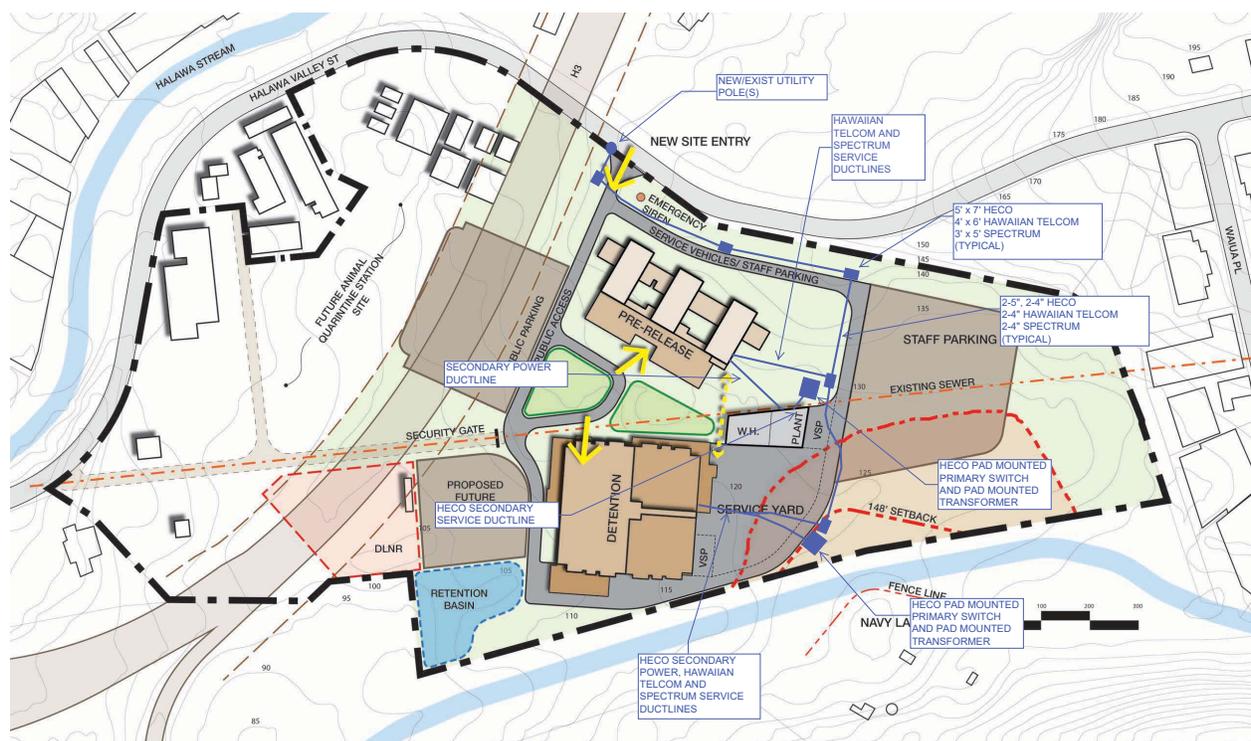


Figure 4-32: Proposed electrical and telecommunications improvements to the AQS site.

Telecommunications Systems

A request for information letter was sent to Hawaiian Telcom (HT) in April 2017 to verify the available capacity of their existing facilities. HT responded via email in June 2017 stating that existing HT copper and fiber optic facilities along Halawa Valley Street should have sufficient capacity to support the proposed OCCC.

Similarly, a request for information letter, to confirm available capacity of Spectrum's existing facilities, was sent to Spectrum in April 2017. Spectrum responded via email in May 2017 stating that the existing coaxial and fiber optic facilities along Halawa Valley Street should have sufficient capacity to support the proposed OCCC.

New underground infrastructure, consisting of duct lines, manholes and/or handholes, will be extended from the existing joint use pole line along Halawa Valley Street to support telecommunications services to the facility (as shown in Figure 4-32 on the previous page).

The placement of communication rooms throughout the OCCC facility will be similar to that of the electrical room. Communication rooms should be stacked vertically on each floor and located within a 295 linear feet cable distance to the farthest outlet. It is recommended that communication rooms be approximately 12' x 15' in size. Typically, a 200 linear foot horizontal coverage arc around the telecom room is utilized to allow for slack loops, risers, offsets, etc. The recommended room size does not account for spaces devoted to electronic security, AV, radio, and other low voltage systems. It also does not include space for the service entrance facility and the main distribution frame (MDF). Depending on the location of the MDF within the buildings the room sizing on the ground floor could change.

For more information on electric and telecommunications, please see Appendix F.

Traffic Impact Analysis

As part of the site impact analysis, a traffic study was conducted to identify and assess the traffic impacts resulting from the proposed relocation of OCCC. This study included:

1. Evaluation of existing roadway and traffic operations in the vicinity of the AQS;
2. Analysis of future roadway and traffic conditions without the proposed project;
3. Analysis and development of trip generation characteristics for the proposed project;
4. Superimposition of site-generated traffic over future traffic conditions;
5. Identification and analysis of traffic impacts resulting from the proposed project; and
6. Recommendations of improvements, if appropriate, that would mitigate the traffic impacts resulting from the proposed project.

The compiled data and analysis is detailed in the Traffic Impact Analysis Report (TIAR) included as Appendix J to this report. Based on the analysis of the traffic data, the following are the recommendations of this study to be incorporated in the proposed OCCC at the AQS site:

1. Maintain sufficient sight distance for motorists to safely enter and exit project driveway;
2. Provide adequate on-site loading and off-loading service areas and prohibit off-site loading operations;
3. Provide adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project site to avoid vehicle-reversing maneuvers onto public roadways;
4. Provide sufficient turning radii at all project driveways to avoid vehicle encroachments to oncoming traffic lanes;
5. Provide adequate on-site parking with clear way-finding instructions to properly direct employees, visitors, delivery trucks, etc.;
6. If access at the entrance to the selected site is controlled, provide sufficient storage for entering vehicles at the parking area access controls (i.e., automatic gate, etc.) to ensure

that queues do not extend onto the adjacent public roadways; and

7. Update the Traffic Impact Report for the Oahu Community Correctional Center 6-9 months after the project is completed and occupied to verify trip generation, trip distribution, and projected operating conditions.

With the implementation of the aforementioned recommendations, construction and operation of the proposed OCCC at the AQS is not expected to have a significant impact on traffic operations in the project vicinity.

For more information on the Traffic Impact Analysis, please see Appendix J.

4.5 NEXT STEPS

With the completion and acceptance of this Master Plan, the OCCC planning project can continue to make progress toward the ultimate goal of opening and operating a new OCCC facility. Key next steps include establishing the zoning restrictions for the selected site through Plan Review Use submittal, issuing a Request for Proposal (if requested) for the project design, and moving into the ultimate design and construction of the new facility.

Plan Review Use

Jails, like colleges, hospitals, airports, and other similar land uses of a permanent and institutional nature are an essential part of a functioning community. And, like for these similar uses, the Honolulu Land Use Ordinance (LUO) does not specifically establish areas for jails to be built. Instead, the LUO has established a review and approval mechanism known as Plan Review Use (PRU) to help plan for these necessary land uses while mitigating potential adverse impacts on surrounding land. Accordingly, the proposed OCCC requires master plan approval from the City of Honolulu’s Department of Planning and Permitting (DPP). DPP will ensure that the planned OCCC buildings and landscaping will provide adequate screening “so as to minimize any objectionable aspects of the use or the potential incompatibility with other uses permitted in the zoning district.”

DAGS, on the behalf of PSD, intends to ensure that the master plan for the OCCC facility proposed for the selected project site is in compliance with applicable zoning requirements. Per PRU requirements, the proposed master plan must encompass the development of the entire lot,



Figure 4-33: Key design criteria established by the OCCC master plan.



Figure 4-34: Possible mitigation measures for communities impacted by the new OCCC.

span at least five years, and be reviewed and commented on by applicable city, state, and federal planning and development agencies. A key component of the master plan includes establishing design standards for the zoning lot, as shown in Figure 4-33.

The PRU application will also address expected project impacts, and propose measures to mitigate these impacts are outlined in Figure 4-34.

As part of the PRU effort, PSD will appear again before the neighborhood board in which the selected site is located to update neighborhood board members and the public on the status of the planning process. Interested members of the community, especially the selected site’s immediate neighbors, will be encouraged to share their views on the proposed OCCC development plan. The PRU process will begin following the State’s formal acceptance of the Final EIS document.

Request for Proposal

A consultant, on behalf of the State, will prepare a request for proposal (RFP) for design/build services. This RFP will detail the design, construction, and performance requirements needed to achieve the State’s goals for the new facility, with the intention of contracting the services of the design team who will be responsible for the ultimate building design.

Project Design and Construction

Following the completion of the RFP, and the award of a design contract, this project should move into the formal design phase. This process could be conducted in a variety of manners, depending on the selected form of project delivery method. For further discussion of project delivery, and a preliminary project schedule, refer to Chapter 6 of this document.

5 PROJECT FINANCING OUTLINE

The decision on whether to obtain public or private financing for a public works project such as a new correctional facility is driven by various legal, financial, and political factors including the nature and scale of the project and the fiscal health of the public entity sponsoring its construction and operation. Public financing of a large capital project could be constrained by legal limits on the degree to which municipal, county or state governments can incur debt and/or if development of the project will adversely affect its ability to fund additional public facilities and infrastructure improvements, on-going operations and other obligations. Government jurisdictions incurring too much debt or are having difficulty meeting current obligations can be subjected to a credit rating downgrade which increases the cost of borrowing and can limit its capacity to finance future public works and infrastructure investments.

Correctional facilities are often viewed by the public as low priorities for public financing and convincing an electorate to approve a bond to fund such projects can be far from guaranteed in light of pressing needs for financing of new schools, health care facilities, transportation systems, and other public facilities. With the advent of public private partnerships (P3), along with a slow-growth national economy, city, county and state governments across the U.S. have become increasingly amenable to leveraging private sector capital and expertise in designing, building, and financing new public facilities and infrastructure. Although private sector partnering has been most frequently used to finance transportation projects, where the developer can recoup its investment through tolls and user fees, P3s for other types of public infrastructure have become possible using innovative partnership arrangements.

The State of Hawaii will require substantial investments to bring OCCC up to State and

national standards. In addition to conventional public financing options, alternative options are available to the State to help meet OCCC financing goals. Prior to engaging in a full Value for Money analysis, the project team produced an in-depth overview of a variety of possible financing options for the OCCC project. These are compiled within Appendix D: Financing Plan Options, which was originally published in the 2017 Progress Report to the Hawaii State Legislature. The key financing options covered in this appendix include:

- Conventional public financing options
- Alternative bond and revenue generation instruments
- Public-private partnerships
- Advantages and disadvantages of alternative financing plan options

A variety of financing options and concepts are outlined in the following text; these are further explored in the report contained in Appendix D.

5.1 CONVENTIONAL PUBLIC FINANCING OPTIONS

“Pay As You Go”

The “pay as you go” form of financing is a conventional form of project financing which involves the appropriation of public funds necessary to complete the proposed project within a single fiscal year. If the project’s construction spans multiple years, then additional funds must be appropriated for each year construction continues. This is the least costly financing plan as it does not involve incurring debt, but is not a practical approach for larger capital projects as it has direct impacts on other projects and services to accommodate the increases in spending.

Bonds

A bond is a security instrument which acknowledges that the issuer has borrowed money and must repay it to the bondholder at a specified rate of interest at periodic intervals. A bondholder also receives the amount lent (the principal) when the bond reaches its maturity. Bonds are known as debt securities and are different from loans because as a security they can be publicly traded and have values that can fluctuate. Debt securities with a maturity of 13 months or less are known as notes. However, bond maturity can last up to 30 years. Different types of bonds can be issued by a government and each type has ramifications for the level of interest rates paid by the issuer, a jurisdiction's credit rating, and impact on debt ceilings.

5.2 ALTERNATIVE BOND AND REVENUE GENERATION INSTRUMENTS

General Obligation Bonds

Until the 1980s, General Obligation Bonds (GOs) were the most frequently used form of public financing for correctional facility construction. However, the use of obligation bonds has declined as states and counties faced higher budget deficits and fiscal challenges, including limits on accrued debt as well as competing priorities for the use of bond financing. GOs are secured either by a pledge of the full faith and credit of the issuer or by a promise to levy taxes in an amount as necessary to pay debt service, or both. With very few exceptions, local agencies are not authorized to issue "full faith and credit" bonds. The GOs of such agencies are typically payable only from ad valorem (in proportion to the value) property taxes, which are required to be levied in an amount sufficient to pay interest and principal on the bonds coming due in each year. To secure a GO, the jurisdiction must seek voter approval.

GOs are still a relatively low cost method for obtaining capital for large public infrastructure projects. This is because GOs are fully backed by a pledge of the issuer to collect sufficient revenue (e.g., tax revenue) to repay the principal and interest. Because they are backed by the

"full faith and credit" of the local government, financial markets consider GOs among the most secure investments. Accordingly, the low risk of GOs translates into reduced interest rates paid to investors and a lower overall project cost.

Revenue Bonds

Revenue bonds are commonly characterized as "limited obligations" or "special obligations" because repayment is not directly secured through the taxing power of the government jurisdiction but rather through a pledge of a specific stream of revenues. As such the debt does not count towards a state's debt limit. Revenue bonds typically finance public projects such as toll roads, bridges, airports, water and sewage treatment facilities, hospitals and subsidized housing. Lease revenue bonds use the bond revenue to build the facility and then lease it to the government at a rate that will allow full repayment to the investors (principal and interest) by the end of the lease period. The title of the facility reverts to the government agency when the bond or the lease has been paid in full.

Revenue bonds are not counted towards the jurisdiction's debt limit, and therefore, do not require voter approval. However, the fact that the pledged revenue stream is not directly supported by state or county funds, but by lease payments subject to appropriation, translates into a higher interest rate paid to the bond investors. County and state governments tend to use revenue bonds when the debt ceiling has been reached or when it is very difficult to obtain voter approval for obligation bonds.

Sales Tax Revenues

One mechanism for generating a regular revenue stream would be the imposition of a special sales tax that could be directed exclusively for OCCC construction. Under this approach an additional levy would be added to the current tax rate that is collected at the point of sales by retail establishments operating within the state.

Sale of State Assets

Another approach for potentially generating significant funds, although on a one-time basis, would be to designate selected state property and assets as surplus and put them up for sale. Before such property or an asset can be sold, however, the state must declare it to be surplus.

Certificates of Participation

Certificates of Participation (CoPs) are lease financing agreements in the form of securities that can be issued and marketed to investors in a manner similar to tax-exempt debt. These are a specialized type of revenue bonds governments have been using recently to finance capital projects, where a public agency uses its authority to acquire or dispose of property, rather than its authority to incur debt. CoPs are sold through an underwriter and the proceeds of the sale of the CoPs are used to pay the cost of acquiring or constructing improvements.

The concept behind a CoP is that instead of receiving interest payments, the owner of the bond receives a share of the lease payments on a specified periodic basis until the bond reaches maturity. The bond maturity is reached when the lease period ends. Under this approach the lessor assigns the payments to a trustee, who then distributes the payments to the CoPs holders. CoPs, like other types of bonds, can be resold to another entity prior to its maturation date. Like revenue bonds, CoPs are more costly to issue than obligation bonds because they require a higher interest rate to attract buyers. Also, like revenue bonds, repayment is not directly supported by tax revenue but by lease payments subject to annual appropriations. Some of these bonds require insurance, which in turn, increases their cost. It should also be noted that revenue bonds and CoPs can be directly negotiated with private entities or individuals which can reduce the competitive bidding for their purchase.

5.3 PUBLIC-PRIVATE PARTNERSHIPS

Public-Private Partnerships (P3s) are collaborations between governments and private entities to provide public infrastructures, facilities, or services for long-term periods through the sharing of risks, responsibilities and rewards. These partnerships are formed to optimize the advantages that the private sector can offer in building and/or operating public facilities and infrastructure. There are a variety of possible P3 options, which include the following:

Private-Finance-Build-Transfer

In this form of financing, the government would contract with a private firm to finance and build a facility and would pay the private firm lease payments for a pre-determined period. These lease payments would cover the capital costs incurred by the private firm and provide them with a negotiated rate of return on that investment. At the end of the lease period, the private firm would transfer ownership of the facility to the state.

While the private firm would build and retain ownership of the facility throughout the lease term, the state would provide the manpower to perform all of the activities associated with housing and supervising the inmates. Regardless of whether those staff would be employees of PSD or by subcontractors, those functions would not be performed by the P3 firm and therefore would not be accountable for the quality of those operations. Under this arrangement, the private firm bears the financing and construction risk while the state would retain the operational risk.

Design-Build-Finance

Under a Design Build Finance (DBF) arrangement, the private partner provides both design and construction of a project to the public agency in addition to the financing. This type of partnership can reduce time, save money, provide stronger guarantees and allocate additional project risk to the private sector. It also reduces conflict by having a single entity responsible to the public owner for the design and construction. The public sector partner owns the assets and has the responsibility for the operation and maintenance. The structure

of DBF has some variations that are developed according to the needs of each project sponsor.

Performance Based Infrastructure

Performance Based Infrastructure (PBI) is a partnership between the public sector owner and a private project company that finances, designs, and builds the facility (and then is responsible for maintenance). The responsibilities for designing, building, financing, and maintaining are bundled together and transferred to private sector partners. Lease payments to private entity are contingent on performance. PBI partnerships capitalize on the development expertise of the private entity while ensuring that projects meet their objective of providing high-quality infrastructure for the public.

Developer Finance

The private partner finances the construction of the facility in exchange for the right to build residential housing, commercial or industrial developments facilities at our near the site.

Lease/Purchase

A lease/purchase is an installment-purchase contract. Under this approach, the private sector finances and builds a new facility, which it then leases to a public agency. The public agency makes scheduled lease payments to the private party. The public agency accrues equity in the facility with each payment. At the end of the lease term, the public agency owns the facility or purchases it at the cost of any remaining unpaid balance in the lease.

5.4 ADVANTAGES AND DISADVANTAGES OF ALTERNATIVE FINANCING PLAN OPTIONS

The advantages and disadvantages to alternative financing methods for jail construction are summarized in Table 5-1 on the following page. It should be noted that some of the disadvantages to the general obligation bond alternative are of less relevance to entities such as the State of Hawaii as a result of its high credit rating and where the debt capacity is limited by law or a majority vote of the members of the legislature is needed for bonding authority. Hawaii's is currently within the 18.5 percent legal limit; the primary issue would be the legislature's approval of a bond for new OCCC construction.

Private sector participation in construction, maintenance, and operation of public facilities and infrastructure increased significantly over the last decade, but its appropriateness in terms of benefiting the public sector varies depending on the specific project under consideration. A P3 could be appropriate if one of more of the following criteria is met:

- Budget and/or debt limitations constrain public sector financing.
- Project is complex and public sector seeks to spread some risk to private sector.
- Quality of the project or the service (operator) would benefit.
- Private partner can be incentivized to complete the project on a faster timeframe.
- Legal framework is in place that is conducive to private sector involvement (in particular no prohibitions of private involvement).
- Completed project is able to generate lease payments and/or user fees to provide investor with sufficient return on investment.
- Electorate is amenable to private sector involvement.
- Taxation framework confers advantages for private sector partners.

A project would have to meet multiple criteria for the conditions to be conducive for a successful

Advantages and Disadvantages of Financing Plan Options		
Financing Plan Option	Advantages	Disadvantages
General obligation bonds	<ul style="list-style-type: none"> • Low interest rate on the bond; public agency maintains ownership throughout the life of the facility • Bond and interest payments backed by property tax revenues instead of appropriations or other funding sources • Public agency maintains full control of jail operations • Public agency may implement the project using any delivery method 	<ul style="list-style-type: none"> • Voter or legislature approval may be required to issue bonds for jail construction. • Interest rate and available bondholders subject to conditions in the financial markets • Public agency's debt ceiling may have been reached • Advice should be sought from public sector market-makers to assess the financial viability of new bond issuance
Revenue bonds	<ul style="list-style-type: none"> • Bondholder assumes financial risk of the investment • Voter approval of bond issuance not required • Public agency maintains full control of jail operations • Public agency may implement the project using any delivery method 	<ul style="list-style-type: none"> • Higher risk due to the lack of guaranteed availability of funding sources throughout the life of the project • Government regulations may apply as to the limits of specific types of funding sources
Special sales taxes	<ul style="list-style-type: none"> • Project can be funded without incurring additional debt while retaining full ownership 	<ul style="list-style-type: none"> • In place of sales tax, Hawaii has a gross receipts tax levied on businesses which is, in many ways, stricter than a standard sales tax
Sale of state land and other assets	<ul style="list-style-type: none"> • If sold parcels and assets are sufficiently large, project could be funded in part through one time sale while incurring a lesser amount of debt 	<ul style="list-style-type: none"> • Sale to private sector removes valuable asset(s) from the state's resource inventory
Private public partnerships	<ul style="list-style-type: none"> • Privatization of the construction will not impact the government's capital budget • Public agency will not have to acquire capital from the financial markets nor work with public sector market-makers • Public agency does not bear the financing or construction risk of the new facility 	<ul style="list-style-type: none"> • Public agency may not have control of project delivery method • Operational responsibility is retained by the public agency

Table 5-1: Summary of the primary advantages/disadvantages of financing plan options.

P3. As seen from the criteria, the factors favoring or disfavoring private participation are legal, economic, financial, and political. In some localities there is strong constituency for retaining public sector control over all aspects of traditional public facilities and operations. States such as Hawaii are resistant to public sector unions who may be skeptical to any role by the private sector in building and owning a jail facility. From the onset of a proposed P3 project, the state would need to make it unambiguously clear that jail operations would remain within the domain of PSD and at most the P3 would be charged only with

the maintenance of the physical facility under a performance-based infrastructure delivery model.

In the following chapters, a thorough analysis has been conducted to compare the life cycle costs of selected P3 plan options to a conventional public financed and owned option. This analysis looks into a variety of project delivery options and how financing could be applied, and takes into account how project construction and operation risks would be apportioned under the different scenarios.



ANTICIPATED COST AND SCHEDULE

6.1 UPDATED CONSTRUCTION COST ESTIMATES

To aid the project team in the planning process, and to provide the State of Hawaii with an understanding of potential expenses associated with the development of a new OCCC, cost estimates were performed a number of times during the planning process. These estimates include the following:

- Initial Estimates (February 2017)
- Cost Estimates for Shortlisted Sites (September 2017)
- Cost Estimate for Preferred Site (April 2018)

As the project program developed and site information became clearer, the cost estimates evolved. However, because project delivery, procurement, and financing are still under consideration and each could have a considerable impact on final project costs, these estimates should all still be considered preliminary. Cost estimates will need to be reexamined as the planning process progresses further into design.

Initial Cost Estimates (February 2017)

In late 2016/early 2017, the project team began preparing preliminary cost estimates to establish a probable cost of construction at the programmatic budgeting design state. The cost estimates established were a general order of construction cost magnitude level of detail to provide decision makers a rough estimate for construction to better assess the status of the planning process. These were provided to the State of Hawaii as part of the Progress Report to the Hawaii State Legislature issued on February 1, 2017.

When these estimates were prepared, no site had been selected and no preferred building layout had been developed. Instead, the cost estimates examined expected construction cost range for

generic Low-Rise, Mid-Rise, and High-Rise design solutions. They were prepared using conceptual block diagrams of the buildings with blocks describing functional areas within the buildings, with areas derived from the Interim Architectural Space Program, as well as conceptual site plans. Estimates were based on the following four possible site/design solutions:

- Option 1: assumed a new mid-rise facility would be built on the existing OCCC site in Kalihi.
- Option 2: assumed that a new high-rise facility would be built on the open area on the site of the existing Halawa Correctional Facility.
- Option 3: assumed that a new facility would be built on any property listed in the site inventory other than the sites described in Option 1 and Option 2. Because all site alternatives appeared to have sufficient area to allow for any reasonably sized design solution, two separate estimates were prepared:
 - Option 3a: assumed a low-rise (or “campus”) layout
 - Option 3b: assumed a mid-rise (3-5 stories) layout

To account for the large number of uncertainties at this stage of the project, a range of numbers were provided for each option; these are shown in the Estimated Total Project Cost (see Figure 6-1 on the following page).

Along with the cost estimates for each option, the project team provided a Benchmark Study to establish historical probable cost of construction at the budgeting design stage. The budgets for more than 30 prison, jail, and mental health facility construction projects in the United States and Canada were examined, adjusted to account for

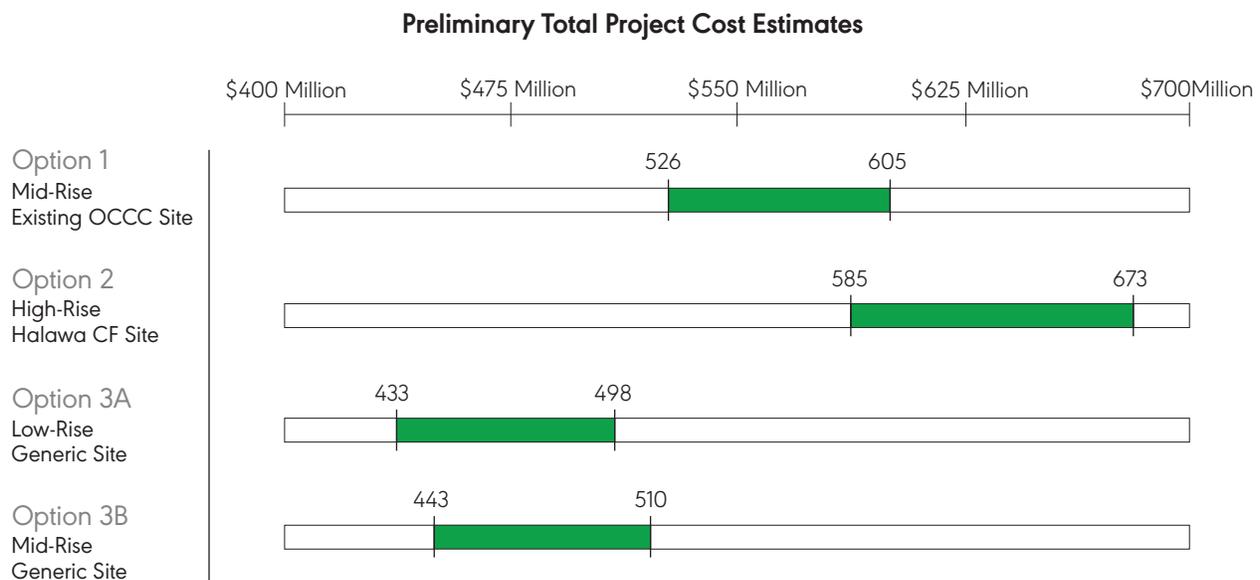


Figure 6-1: Preliminary cost estimates prepared before four sites were selected.

2017 Hawaii construction numbers, and charted to illustrate their relationship to each other. Figure 6-2 on the subsequent page shows how the proposed options for OCCC compared on a cost per square foot and cost per bed basis to similar facilities.

Cost Estimates for Shortlisted Sites (September 2017)

By fall 2017, a shortlist of four preferred sites had been selected as potential locations for the new OCCC facility. For each site, a site fit study was performed allowing the team to establish a preliminary building layout based on the previously established building program. With this information, preliminary construction costs were generated for the following sites and building arrangements:

- Animal Quarantine Station site in Halawa, assuming a mid-rise detention facility and a low-rise pre-release facility;
- Existing OCCC site in Kalihi, assuming a high-rise facility combining both detention and pre-release functions;
- Halawa Correctional Facility site in Halawa, assuming a high-rise facility combining both detention and pre-release functions; and

- Mililani Technology Park Lot 17 site in Mililani, assuming a mid-rise detention facility and a low-rise pre-release facility.

Factored into each cost range were the following:

- Construction cost escalation factors to the mid-point of construction based on a preliminary market analysis.
- Estimates for on-site utilities, drainage and grading.
- Caveats and assumptions explaining undetermined items including off-site utility improvements, construction phasing, land acquisition costs, etc.

Preliminary cost estimates were based on an assumed two-year construction schedule with a mid-point of construction projected as summer 2022. Estimated total project cost for each option were as follows:

- Option 1: Animal Quarantine Station Site (Mid-Rise Layout): \$525 million (includes \$17.5 million estimated for construction of a new AQS on the west side of the site)
- Option 2: Existing OCCC Site (High-Rise Layout): \$596 million (including \$30 million for construction of temporary housing at HCF)

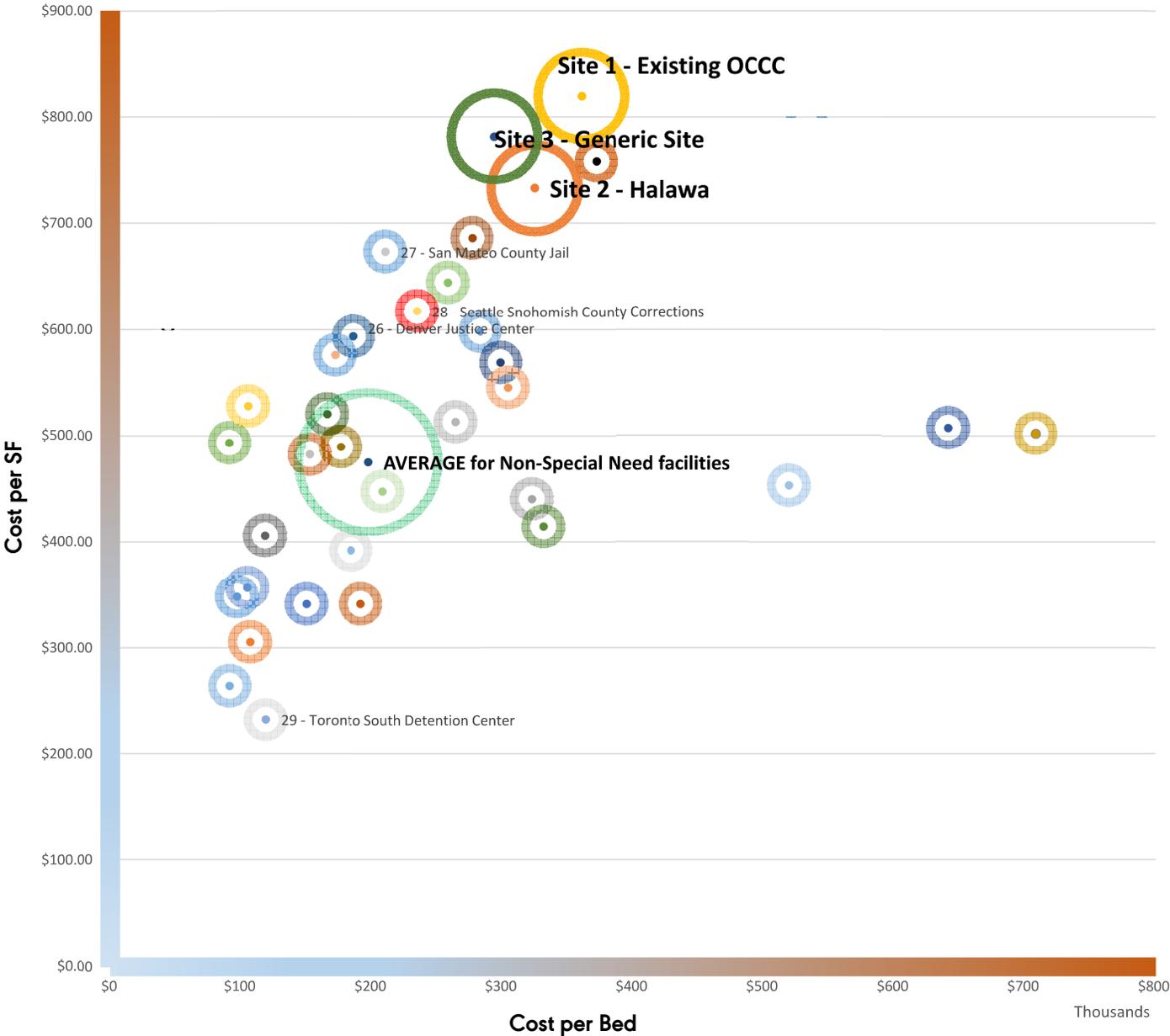


Figure 6-2: Budget comparison of more than 30 similar construction projects.

- Option 3: Halawa Correctional Facility Site (High-Rise Layout): \$564 million
- Option 4: Mililani Technology Park Site (Mid-Rise Layout): \$556 million

Although not part of this project, an estimate of \$45 million was included for construction of expanded facilities and renovation of existing facilities at WCCC. This was considered very preliminary, and will need to be further evaluated as the WCCC program requirements develop and design begins.

These numbers were provided to the State of Hawaii and published as part of the Final Environmental Impact Statement, which was issued publicly on July 8, 2018.

Cost Estimate for Preferred Site (April 2018)

Following extensive evaluation as reviewed in Chapter 3: Site Selection Process, the Animal Quarantine Station site was selected as the preferred location for the new OCCC facility. Once the master planning process for this site progressed

to a suitable point, the updated program numbers and site information was used to update the AQS site cost estimate. This updated estimate is included as part of this report in Appendix C, showing the updated anticipated construction cost to be:

- Animal Quarantine Station Site (Mid-Rise Layout): \$485 million

This updated estimate is meant to serve as a guide as the State moves into the design phase, as well as a basis for the Value for Money studies described in Chapter 7 of this report. The estimate looks at current market trends and analyzes cost escalation factors that will affect future construction bids for the project. An estimated project schedule of 2 years (24 months) for design, engineering, and permitting and 2 years (24 months) for construction was assumed, with mid-point of construction estimated to be June of 2022. Refer to the following section of this chapter for further discussion on project schedule.

The estimate includes the cost of the building itself, cost of site work, and additional expenses involved with the construction process. Assumptions were made for construction type and scope, including building structure and exterior finish, interior finishes, mechanical and electrical systems, and fire protection. These assumptions can be found in "Scope Assumptions" on pages 13 and 14 of Appendix C. Varying from these assumptions during design and construction will have impacts on the construction cost.

There are additional factors required to successfully complete construction, but are not part of the physical building or site work. This includes construction phasing, exterior signage, the building's telephone system, design and project management costs, and contingency costs. These estimated costs are included in the \$485 million estimate. An allowance has also been provided for costs related to furniture, fixtures, and equipment (FF&E).

Additional expenses will be incurred during the course of the project, but have been excluded from this estimate. These expenses include site acquisition, relocation and moving costs, project financing and working capital, permitting and

connection charges, and some soft costs such as equipment, computer systems and software, and administrative costs. Legal fees, property taxes, and interest are also excluded from the Estimated Total Project Cost. Further explanation of what is included and excluded, the expected risks, and how the estimates were made can be found in the sections entitled "Risk Considerations" and "Approach & Methodology" provided in the cost estimate appendix (pages 15-17). Expenses related to project financing are found in detail in Chapter 7 of this report.

It should be noted that an additional estimate was performed that included an allowance for constructing a new Animal Quarantine Station on the west side of the existing AQS site and relocating operations to this new facility. This estimate anticipated a new 9,500 sf office building, outdoor dog and cat kennels, a pasture area, holding pens for large animals, and included an allowance for moving costs. The estimate for the AQS construction was \$17.5 million; when this was added to the \$485 million OCCC estimate, along with estimates for design, project management, and contingency, the total project cost was estimated at \$507 million. However, the decision was made to focus financing studies solely on the cost of the OCCC work itself, so the \$485 million number is used in this report going forward.

6.2 STAFFING AND OPERATING COSTS

Future OCCC staffing and operating costs have been estimated based on the space designs contained within the Interim Architectural (IA) Space Program (included as appendix F to the Final EIS). The program addresses all spaces required for detention and pre-release beds. Examples include housing units, administration, health care, intake services, food service and maintenance.

Applying OCCC’s current staffing patterns to the IA Space Program would not reflect the advantages of modern jail design and advances in technology. Therefore, the team worked with materials and professionals from the National Institute of Corrections to document best practices and apply them to the IA Space Program. Two individual jail managers were also contacted to provide examples of best practices.

Data was gathered from PSD representatives regarding current staffing and operating costs of OCCC. The data were analyzed for determining the order of magnitude in terms of which items represent the greatest expenses. This served as a baseline for comparing two staffing and operating cost scenarios. The first option is a low-rise replacement facility and the second option is a multilevel replacement facility. Conclusions from the staffing and operating cost analysis are included in the following sections. The original report, including background information, additional studies, and other associated data can be found in Appendix E.

Existing Staffing

It is well known throughout the corrections industry that roughly three-fourths of the total operating budget can be attributed to staffing. As explained by the National Institute of Corrections, “Staff are the most costly and important resource in operating a jail. In many jails, staffing costs make up 70 to 80 percent of the annual budget. Without adequate staffing, jail security and the safety of staff, inmates, and the community are directly threatened and the possibility of costly litigation against the jail increases significantly.” Therefore, the efficiency of operating costs is highly dependent on staffing.

Since the largest component of jail staffing is custody staffing, the focus of staffing efficiency centers on housing units and rovers that support the units and internal movement.

The layout of the existing OCCC facility forces staff to operate it more like a state prison than a modern jail. The existing OCCC is composed of many separate buildings spaced apart from one another and linked via sidewalks and a series of recreation yards. The arrangement of buildings and recreation yards makes it difficult for staff to control and creates the need for additional staffing. Additionally, it is highly unusual to see guard towers at a jail. The following section starts with the big picture of OCCC and goes through several steps to determine where the focus should be in terms of efficient staffing and operating costs of the replacement facility.

FY16 OCCC Operating Costs	
Institutions - OCCC	\$46,216,391
Corrections Prog Svcs	\$3,460,359
Food Service	\$3,894,037
Health Care	\$8,933,553

Table 6-1: Breakdown of operating cost by division.

FY16 Staffing and Non-Staffing Costs

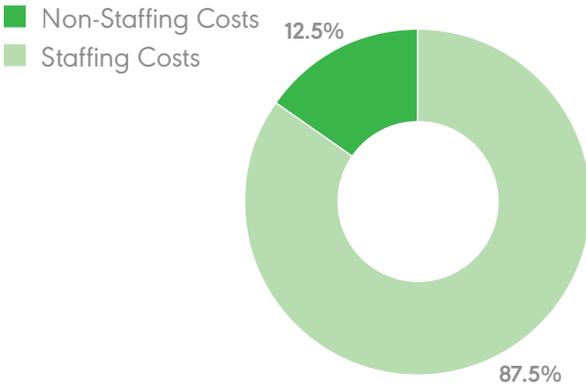


Figure 6-3: FY16 OCCC total percentage of staffing cost and non-staffing cost.

FY16 OCCC Staffing	
Section	Position
Admin & Records	9
Security	415
Office Services	15
Residency	18
Community Base Section	23
Facility Operations	23
Total	503

Table 6-2: FY16 OCCC total staffing positions.

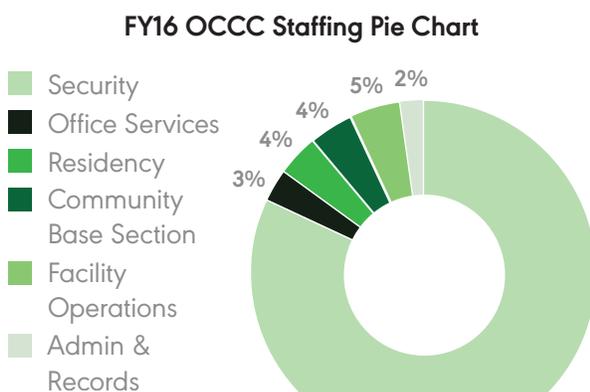


Figure 6-4: FY16 OCCC division of staffing positions.

FY16 OCCC Security Staffing		
Job Class	Positions	Percentage
Adult Corrections Officer (ACO) VII (Chief of Security)	1	0.2%
Secretary 1	1	0.2%
OA III	2	0.5%
ACO VI - Captain	6	1.4%
ACO V - Lieutenant	14	3.4%
ACO IV - Sergeant	68	16.4%
ACO III - Officer	323	77.8%
Subtotal	415	100.0%

Table 6-3: FY16 OCCC security staffing positions.

The estimated operating cost for OCCC in FY16 was \$67.3 million, based on OCCC direct expenditures from the Institutions Division and per capita rates for Corrections Program Services (CPS), Food Service, Health Care and Administration. The breakdown of operating costs by division is provided in Table 6-1. The first item listed is the direct expenditure from the Institutions Division with the remaining four items proportioned from statewide allocations that can be attributed to OCCC based on average daily population.

The PSD budget office reports an end of month average of 1,199 inmates for FY16. The daily per capita cost is \$153.68 (\$67,255,489 ÷ 1,199 inmates ÷ 365 days = \$153.68 per day). Staffing represents 87.5 percent of the cost with 12.5 percent being non-staffing costs (Figure 6-3, on previous page). This reinforces the notion that if efficiencies are to be gained, the focus should be on staffing. As shown in Table 6-2 and Figure 6-4, OCCC currently has 503 approved positions spread over six sections. By far, the majority of the staffing is security staffing, representing 82.5 percent of all staffing. The security staffing positions are summarized in Table 6-3. Of the 415 security positions, 391 or 94.2 percent of the total are sergeants and officers.

To refine it further, a total of 59.4 sergeants (87 percent of all sergeants) and 163.4 officers (51 percent of all officers) are either posted in housing units or assigned as rovers that support internal movement of inmates. In total, this equals 222.8 positions. The specific assignments of these officers are shown in Table 6-4. As shown in Table 6-5, the cost of these positions is \$18.9 million per year. This translates to a per bed cost of \$18,863 annually for this portion of staffing (\$18.9 million ÷ 1,004 beds = \$18,863). Also, a total of 222.8 uniformed positions with a capacity of 1,004 beds yields a ratio of 4.5 beds per custody officer (1,004 ÷ 222.8 = 4.5). These numbers become important when comparing the staffing efficiency of OCCC replacement facility options. Full time equivalent (FTE) costs are estimates based on salary plus a fringe benefit rate of 49.54 percent as approved by the Hawaii Department of Budget and Finance (B&F).

Housing Units and Rovers Specific Assignments											
Detention Beds			Sergeants (ACO IV)				Officers (ACO III)				Total FTEs
			Posts			FTEs	Posts			FTEs	
Module	Type	Capacity	Shift 1	Shift 2	Shift 3		Shift 1	Shift 2	Shift 3		FTEs
1	Ment Hlth	42	1.0	1.0	1.0	5.0	1.0	1.0	1.0	5.0	9.9
2	Ment Hlt/Me	48	0.0	1.0	1.0	3.3	1.0	1.0	1.0	5.0	8.3
3	General	59	0.0	1.0	1.0	3.3	1.0	2.0	2.0	8.3	11.6
4	General	60	0.0	1.0	1.0	3.3	1.0	2.0	2.0	8.3	11.6
7	General	24	0.0	0.0	0.0	0.0	1.0	2.0	2.0	8.3	8.3
8	Ment Hlth	24	0.0	1.0	1.0	3.3	1.0	1.0	1.0	5.0	8.3
11	General	48	0.0	1.0	1.0	3.3	1.0	1.0	1.0	5.0	8.3
13	General	48	0.0	1.0	1.0	3.3	1.0	1.0	1.0	5.0	8.3
17	General	48	0.0	1.0	1.0	3.3	1.0	1.0	1.0	5.0	8.3
18	General	72	0.0	1.0	1.0	3.3	2.0	2.0	2.0	9.9	13.2
19	General	72	0.0	1.0	1.0	3.3	2.0	2.0	2.0	9.9	13.2
Annex-1	General	84	1.0	1.0	1.0	5.0	1.0	2.0	2.0	8.3	13.2
Mauka	General	36	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
Makai	General	36	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
Annex-2	General	84	1.0	1.0	1.0	5.0	2.0	3.0	3.0	13.2	18.2
Max/Holding	Short-term	36	1.0	1.0	1.0	5.0	2.0	3.0	3.0	13.2	18.2
Infirmary	Short-term	3	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
Rovers	Rovers	0	0.0	0.0	0.0	0.0	3.0	4.0	3.0	16.5	16.5
	Subtotal	824	4.0	13.0	13.0	49.5	24.0	31.0	30.0	140.3	189.8
Pre-Release Beds											
Laumaka	Pre-Release	96	1.0	1.0	1.0	5.0	1.0	2.0	2.0	8.3	13.2
20	Pre-Release	84	1.0	1.0	1.0	5.0	3.0	3.0	3.0	14.9	19.8
	Subtotal	180	2.0	2.0	2.0	9.9	4.0	5.0	5.0	23.1	33.0
Grand Total		1004	6.0	15.0	15.0	59.4	28.0	36.0	35.0	163.4	222.8

Table 6-4: Specific assignments of security officers at OCCC.

Estimated Cost of Current OCCC Housing Unit and Rover Staffing			
Title	Per FTE	FTEs	Cost
Sergeants	\$95,154	59.4	\$5,652,153
Officers	\$81,336	163.4	\$13,286,201
Total		222.8	\$18,938,354

Table 6-5: Estimated cost of current security staffing.

Estimated Security Staffing Cost of Current OCCC Housing Units, Rovers and Lieutenants			
Title	Per FTE	FTEs	Cost
Lieutenants	\$107,770	14	\$1,508,773
Sergeants	\$95,154	59.4	\$5,652,153
Officers	\$81,336	163.4	\$13,286,201
Total		236.8	\$20,447,127

Table 6-6: Estimated cost of current security staffing, including lieutenants.

Lieutenants typically serve in the role of assisting a captain and supervising sergeants. Although they are not attached to specific housing units, the number of lieutenants required is related to the number of sergeants being supervised. This also becomes important when comparing current OCCC costs to those of the replacement facility options. When adding the cost of the lieutenants, the above costs increase to \$20.4 million, as shown in Table 6-6.

Project Staff Requirements

A major difference between OCCC's current staffing and the best practices of staffing a modern jail pertains to the use of sergeants. OCCC currently posts sergeants alongside of a single officer for two shifts in general population housing units. It is reasonable to have two staff positions in an old facility where the housing units are physically separated and do not have the benefits of increased surveillance and control through the use of modern electronics. However, a modern jail with clustered housing units and programming space within those housing units is typically staffed with one officer and a sergeant that supports multiple units or in some cases, all units. The Scott County Jail and RJC facilities described in Appendix J are two examples of the many throughout the country.

The following analysis compares current OCCC staffing and operating costs to a new low-rise replacement facility according to the housing unit configuration contained in the Interim Space Program. The analysis also looks at anticipated increased staffing costs associated with a multi-level facility. The analysis assumes all services are in close enough proximity to function as a single facility, with one administration and shared services throughout. It should be noted that these calculations were completed prior to the selection of a specific site and a detailed building design; the numbers below are estimates that are likely to change as buildings become further defined.

Low-Rise Facility

A low-rise jail functions on a single level and the secure perimeter is typically the building exterior. The most efficient low-rise jails are a single building which limits travel time between housing units and the number of times staff and visitors pass through a secure perimeter. The use of security fencing is limited to enclosing vehicle sally ports and exterior recreation areas. There is no security fence surrounding the entire building and there are no guard towers.

Table 6-7 estimates required security staffing for housing and rovers according to the Interim Space Program and best practices described above. For the detention population, sergeants are assigned to three zones: each of the two high security unit clusters and the general population units. The number of sergeants for detention would be 14.9 as opposed to the current 49.5. Rovers have been doubled from existing staffing to provide additional support to housing units and account for the increase in population. The number of rovers changes from 16.5 FTEs to 33 FTEs. Video surveillance will also provide additional support to housing units.

Since the location of the replacement facility is likely at a separate location from the existing LWFC, shift sergeants are provided at Laumaka and the new pre-release compound at the replacement facility. In this case the number of sergeants is the same as the current number for OCCC pre-release at 9.9 FTEs. However, if all pre-release beds are at a single location (as in the existing OCCC site option), the required number of sergeant FTEs would be 5.0.

Translating the above positions into costs suggests an annual cost of \$14.7 million, as shown in Table 6-8. If LWFC is combined into the new facility, sergeant costs would be about \$500,000 less annually.

Estimated Security Staffing for Housing and Rovers											
Detention Beds			Sergeants (ACO IV)				Officers (ACO III)				Total FTEs
			Posts			FTEs	Posts			FTEs	
Module	Type	Capacity	Shift 1	Shift 2	Shift 3		Shift 1	Shift 2	Shift 3		FTEs
1	Special Needs	36	1.0	1.0	1.0	5.0	1.0	1.0	1.0	5.0	9.9
2	Max	36	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
3	Max	36	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
4	Step-Down	72	1.0	1.0	1.0	5.0	1.0	1.0	1.0	5.0	9.9
5	Acute	18	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
6	Acute	18	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
7	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
8	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
9	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
10	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
11	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
12	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
13	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
14	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
15	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
16	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
17	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
18	General	72	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
	Infirmary	10	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
	Rovers		0.0	0.0	0.0	0.0	6.0	8.0	6.0	33.0	33.0
	Shift Sgt		1.0	1.0	1.0	5.0					5.0
	Subtotal	1090	3.0	3.0	3.0	14.9	25.0	27.0	25.0	127.1	141.9
Pre-Release Beds											
19	Laumaka	96	1.0	1.0	1.0	5.0	1.0	2.0	2.0	8.3	13.2
20	P R	48	1.0	1.0	1.0	5.0	1.0	1.0	1.0	5.0	9.9
21	P R	48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	P R	48	0.0	0.0	0.0	0.0	0.0	1.0	1.0	3.3	3.3
23	P R	48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	P R	48	0.0	0.0	0.0	0.0	1.0	1.0	1.0	5.0	5.0
25	P R	48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	P R	48	0.0	0.0	0.0	0.0	0.0	1.0	1.0	3.3	3.3
	Subtotal	432	2.0	2.0	2.0	9.9	3.0	6.0	6.0	24.8	34.7
Grand Total		1,522	5.0	5.0	5.0	24.8	28.0	33.0	31.0	151.8	176.6

Table 6-7: Estimated security staffing for housing and rovers.

Estimated Cost of Low-Rise Housing Unit and Rover Security Staffing			
Title	Per FTE	FTEs	Cost
Sergeants	\$95,154	24.8	\$2,359,819
Officers	\$81,336	151.8	\$12,346,805
Total	N/A	176.6	\$14,706,624

Table 6-8: Estimated cost of security staffing at a low-rise facility.

Staffing Efficiency

The 176.6 uniformed staff working as housing unit and rover officers with a total of 1,522 beds produces a ratio of 8.6 beds per custody officer ($1522/176.6=8.6$), almost double the current housing unit efficiency of 4.5 noted earlier (The Project Development Report and Site Selection Study for OCCC prepared by AHL and DLR Group, June 2009 also showed a doubling of the inmate to officer ratio). Finding a comparison on a national level is difficult due to differences in design, population mix, crowding, operating procedures and reporting of numbers. The Federal Bureau of Prisons reports its detention facility ratio of 6.5 inmates to one correctional officer. However, it does not account for the above factors, and it should be assumed that a new facility will be more efficient than the combination of existing facilities.

Cost Efficiency

The current cost for these positions at OCCC was previously noted as \$18,863 annually per bed. The cost for these positions at a low-rise replacement facility of 1,522 beds is \$9,660 per bed annually ($\$14.7 \text{ million} \div 1,522 = \$9,660$), which is roughly 50 percent more efficient.

Potential Savings

There is also the likelihood of needing fewer lieutenants since there will be fewer sergeants for them to supervise. At an annual cost of roughly \$108,000 per lieutenant and the need for five positions to cover one post on a 24/7 basis, potential savings are close to a million dollars annually when lieutenants are reduced by one 24/7 post. Table 6-9 includes the cost of lieutenants when one 24/7 post has been eliminated. The lieutenant FTEs change from the current 14 to 9.

When comparing this sub-set of staffing to OCCC's current staffing, the low-rise replacement facility shows significant potential savings while staffing an additional 518 beds (most of which are pre-release beds). Table 6-10 shows annual savings of \$4.8 million or \$143.3 million over a 30-year life cycle. It should be noted that life cycle costs/savings are expressed in 2016 dollars and do not account for inflation and other financial considerations.

Estimated Security Staffing Cost of Low-Rise Replacement for Housing Units, Rovers and Lieutenants			
Title	Per FTE	FTEs	Cost
Lieutenants	\$107,770	9	\$969,926
Sergeants	\$95,154	24.8	\$2,355,064
Officers	\$81,336	151.8	\$12,346,773
Total	N/A	185.6	\$15,671,763

Table 6-9: Cost of lieutenants when one 24/7 post has been eliminated.

Comparison of Current and Low-Rise Housing Unit and Rover Security Staffing		
Facility	Per Year	30 Years
Current OCCC	\$20,447,127.00	\$969,926.00
Low-Rise	\$15,671,762.00	\$2,355,064.00
Difference	-\$4,775,365.00	\$12,346,773.00

Table 6-10: Potential savings of a low-rise facility.

Low-Rise Security Staffing	
Job Class	Positions
Adult Corrections Officer (ACO) VII (Chief of Security)	1
Secretary 1	1
OA III	2
ACO VI - Captain	6
ACO V - Lieutenant	9
ACO IV - Sergeant	33.4
ACO III - Officer	311.5
Total	363.9

Table 6-11: Staffing requirements for a low-rise facility.

Total Staffing of a Low-Rise Replacement Facility

The revised security staffing changes the FY16 security FTEs from 415 to 363.8 as shown in Table 6-11. The net savings, as seen in Table 6-12, are 51.2 FTEs ($415 - 363.8 = 51.2$). When applying this revised staffing to the total facility staffing, the

FTEs change from 503 to 452 (503 - 51 = 452). An updated list of all anticipated positions is shown in Appendix E.

There are likely to be additional staffing efficiencies in a modern jail simply because it will have electronics that offset staffing through enhanced surveillance, electronic records systems throughout the facility, video visiting and to some extent, the possibility of video court hearings. Additionally, services brought to the inmates will not only save on internal movement of inmates, it will save on officer posts that are currently needed in separate buildings at OCCC. However, quantifying those savings is not possible without a specific facility design. A specific facility design cannot be developed without a specific site. A conservative approach is to under-estimate savings rather than over-estimate them. It can be assumed that the increased population may offset further staffing efficiencies.

Staffing Changes in a Multi-level Replacement Facility

The primary difference between a single level and multilevel jail is the need for elevators. Once elevators are added, additional staff is needed to operate and observe them. Elevators need to be operational 24/7. It is estimated there would be an additional officer in central control on shifts 2 and 3 (day and swing shifts). Similarly, there would also need to be one additional officer on shift 1 (graveyard) and two additional officers on shifts 2 and 3 to accommodate vertical inmate movement. This is a total of seven posts. Using a shift relief factor of 1.65 (for covering weekends and personal time off), the addition of seven posts requires 11.6 FTEs (1.65 x 7 = 11.6) as shown on Table 6-13.

At a cost of \$81,336 per officer, the total annual cost in 2016 dollars is an additional \$939,438 (11.6 x \$81,336 = \$939,438). The annual amount multiplied over a 30-year life cycle of the building equals \$28.2 million without accounting for inflation and other financial factors.

The addition of 11.6 FTEs changes the security staffing to the configuration shown in Table 6-14. When applying this to the total facility staffing of the low-rise replacement facility, the FTEs change from 452 to 463.4. A list of all positions is shown in Appendix E.

Comparison of Security Staffing FTEs	
Current OCCC (FY16)	415
Low-Rise Replacement	363.8
Difference	51.2

Table 6-12: Net savings of security staffings FTEs.

Multilevel Security Staffing	
Job Class	Positions
Adult Corrections Officer (ACO) VII	1
Secretary 1	1
OA III	2
ACO VI - Captain	6
ACO V - Lieutenant	9
ACO IV - Sergeant	33.4
ACO III - Officer	323
Total	375.4

Table 6-13: Security staffing with the addition of 11.6 FTEs.

Staffing Impact of Elevators					
Officers (AO III)	Shift 1	Shift 2	Shift 3	Total Posts	FTEs
Central Control	0	1	1	2	3.3
Escort	1	2	2	5	8.3
				7	11.6

Table 6-14: Impact on staffing with the addition of elevators into design.

Operating Costs

It is important to develop equivalent comparisons when comparing current costs to future costs. In order to do so, per bed cost comparisons must be made rather than by average daily population. There are several reasons.

1. The average daily population within any facility varies from year to year and it is unknown for the replacement facility.
2. Over the life cycle of the building, the jail may be crowded some years and under-filled other years. Unless the jail has enough empty beds to close one or more housing units, there is a cost to operating the beds. Because of this, a lower ADP does not necessarily equal fewer staff.
3. Crowding creates a built-in economy of scale particularly if no staff positions are added to a housing unit. Comparing a crowded facility to an un-crowded facility would not be an even comparison.

Therefore, the comparison of current costs to replacement facility costs is based on beds in operation, not ADP.

The budget office reports an end of month average of 1,199 inmates for FY16 which equates to a daily cost per inmate of \$153.68 ($\$67,255,489 \text{ total OCCC cost} \div 1,199 \text{ inmates} \div 365 \text{ days} = \153.68). In order to achieve apples to apples comparisons to the new facility, the current operating cost must be adjusted to account for crowding. OCCC's current capacity is 1,004 beds. This means it was crowded by 195 inmates ($1,199 - 1,004 = 195$). As noted earlier, the non-staffing costs at OCCC represent 12.5 percent of the total cost. Table 6-15 removes the cost of crowding from the FY16 cost which provides an estimated per bed cost when the facility is at capacity.

Projected Operating Costs

This section applies the potential savings in security staffing calculated previously to the adjusted operating cost at OCCC. As mentioned, there are likely to be additional savings once a site is selected and the specific facility floor plan is designed. To avoid over-stating savings, it is best to be conservative at this point in time. Estimated future low-rise operating costs with anticipated staff savings factored in are shown in Table 6-16.

FY16 OCCC Cost per Bed Without Crowding	
FY16 per Capita Cost	\$56,077
Non-Staffing Percentage	12.5%
Non-Staffing Cost per Inmate	\$7,010
Inmates Over Capacity	195
FY16 Cost of Crowding	\$1,366,887
FY16 OCCC Operating Cost	\$67,255,489
Cost without Crowding	\$65,888,603
Capacity	1004
Annual per Bed Cost	\$65,626
Daily per Bed Cost	\$179.80

Table 6-15: Estimated cost per bed, without crowding.

Estimated Low-Rise Operating Costs	
Adjusted FY16 OCCC Operating Cost	\$65,888,603
Estimated Staff Savings of Replacement Facility	-\$4,775,365
Estimated Low-Rise Operating Cost	\$61,113,238
Beds at Replacement Facility	1522
Annual Cost per Bed	\$40,153
Daily per Bed	\$110.01

Table 6-16: Estimated operating costs of a low-rise facility.

Difference Between Current OCCC and Low-Rise Facility	
Annual Cost per Bed	Dollars
Adjusted FY16 Annual per Bed at OCCC	\$65,626
Estimated Low-Rise Annual Cost per Bed	\$40,153
Change in Annual Cost per Bed	-\$25,473
Daily Cost per Bed	Dollars
Adjusted FY16 Daily Cost per Bed at OCCC	\$179.80
Estimated Low-Rise Daily Cost per Bed	\$110.01
Change in Daily Cost per Bed	-\$69.79

Table 6-17: Cost comparison between the current OCCC and a low-rise facility.

Cost Difference Between Current OCCC and Multilevel Replacement Facility	
Adjusted FY16 OCCC Operating Cost	\$65,888,603
Operating Cost of Multilevel	\$62,052,666
Annual Cost Difference	-\$3,835,937
30-Year Life Cycle	-\$115,078,107

Table 6-18: Cost comparison between the current OCCC and a multilevel facility.

Difference Between Low-Rise and Multilevel Replacement Facility		
Annual Cost per Bed	Dollars	% Change
Low-Rise	\$40,153	N/A
Multilevel	\$40,770	N/A
Change in Annual Cost per Bed	\$617	1.5%
Daily Cost per Bed		
Low-Rise	\$110.01	N/A
Multilevel	\$111.70	N/A
Change in Daily Cost per Bed	\$1.69	1.5%

Table 6-19: Estimated cost difference between a low-rise facility and a multilevel facility.

Table 6-17 compares OCCC’s current costs to the annual and daily costs shown in the table for low-rise facility operating costs. This is a 39 percent reduction. Table 6-18 shows the staffing cost impact of adding elevators to the replacement facility. In addition to staffing, there would be some additional inspection and maintenance costs that cannot be quantified at this time. When comparing the cost of the current OCCC to a multilevel replacement facility, savings are \$3.8 million annually or \$115 million over 30 years, as shown in Table 6-19.

As shown in Table 6-19, the multilevel replacement facility has a small impact on the overall percentage of cost. However, depending on the selected site, there are likely to be additional financial impacts such as increased land, site development and parking costs.

OCCC is Hawaii’s largest and oldest community correction center. It is staffing and cost inefficient compared to today’s newly designed jails. A replacement facility, as described above, will increase safety of staff, inmates and the public while producing significant savings in operating costs. It is not possible to calculate the full savings until the location is determined and the building design is complete. However, since most of the operating costs are in security staffing, and most of the security staffing is related to the housing module configuration, savings of at least between \$3.8 million and \$4.8 million annually are very likely. This translates to between \$115 million and \$143 million over a 30-year facility life cycle.

Failing to replace OCCC will mean a lost opportunity to provide greater treatment, counseling, and program opportunities to inmates, as well as increase safety as well as take advantage of modern jail design and electronics that produce operational savings. It will also mean the continued maintenance of a facility that appears to be past its useful life cycle.

6.3 PROPOSED CONSTRUCTION SCHEDULE

A project planning schedule has been developed to help the State estimate the planning, design, and construction timeframes anticipated for completing the new OCCC facility. This initial schedule has been attached here in Figure 6-5, and was also provided to DAGS in digital format (Microsoft Project) for their use. The goal of the schedule in its current form is to provide a broad outline for the major events that will occur in the course of the project, and not, at this point, to establish firm dates or definitive durations. These will depend a great deal on the project delivery method selected by the State. Other key factors include the time it takes to get project approval, secure financing, and select a project team, as well as any phasing considerations.

The attached schedule assumes that the project will follow a traditional Design/Bid Build format. To give a general estimate of how various delivery methods could impact the schedule estimates have also been provided for alternative strategies, including Design/Build, General Contractor/Construction Manager (GC/CM), and Design/Build/Finance.

Design/Bid/Build

As the most traditional form of project delivery, Design/Bid/Build was used as the basis for developing a project schedule. This assumes distinct and separate design and construction phases, with financing coming primarily through the sale of Capital Improvement Bonds by the State. Figure 6-5 on the following pages shows this proposed schedule, with the following key phases:

- Planning - 36 months
- Select Design Team - 3 months
- Design - 24 months
- Bid and Award - 6 months
- Construction - 36 months
- Activation/Commissioning - 3 months

Design/Build

Design/Build offers the possibility of a shorter schedule with a more manageable budget and reduced exposure to risk. As with a traditional Design/Bid/Build, financing would likely be through the sale of Capital Improvement Bonds. The owner would hire a Bridging Team to program and develop the project concepts and parameters. The following is a listing of the various phases for this method:

- Select Bridging Design Team - 2 months
- Prepare Bridging Package - 6 months
- Design/Build Team Selection - 4 months
- Prepare Design to 60% - 12 months
- Established Guaranteed Maximum Price (GMP) - 2 months
- Design Completion and Construction - 28 months
- Activation/Commissioning - 3 months

General Contractor/Construction Manager (GC/CM)

This method brings the GC/CM on board soon after the design team starts work. The owner, contractor, and designers collaborate in the design of the project. The GC/CM is contracted to the owner for pre-construction services which mostly relate to cost estimating, systems selection, and constructability aspects of the project. The designer is under contract to the owner. As with the previous methods, financing would likely be through the sale of Capital Improvement Bonds. The following is a listing of the various phases for this method:

- Select Design Team - 3 months
- Preliminary Design - 3 months
- Select GC/CM (can overlap with design) - 3 months
- Prepare Design to 60% - 12 months
- Establish Guaranteed Maximum Construction Cost - 2 months

- Construction (assumes early construction packages) - 28 months
- Activation/Commissioning - 3 months

Design/Build/Finance

This delivery method is based around alternative financing, allowing the development team to provide financing as well design and construction services. The designer works for the contractor and the contractor's agreement is directly with the state. The following is a listing of the various phases for this method:

- Select Bridging Design Team - 2 months
- Prepare Bridging Package - 8 months
- Design/Build/Finance Team Selection - 4 months
- Prepare Design to 60% - 12 months
- Established Guaranteed Maximum Price (GMP) - 2 months
- Construction (assumes early construction packages) - 28 months
- Activation/Commissioning - 3 months

Construction Phasing

The project, as currently conceived, suggests construction for the full scope of the project that will be conducted as one sustained, concerted effort. Should it be necessary, the work could be conducted in phases. Some possible reasons this could be required include the relocation timeline of the Animal Quarantine Station, the availability of funding for design/construction, operational planning by PSD, or future expansion needs for the new OCCC. Some potential phasing possibilities are as follows:

1. Separate the pre-release facility and detention facility into two distinct efforts. These two buildings can operate largely independently, and as such, could be designed and constructed independently. This could allow the State to advance the schedule for one of the buildings (most likely the pre-release

facility) while completing the remainder of the work when ready.

2. Hold off on construction of "Proposed Future Staff Parking" until last. This could allow the AQS maintenance facility, which is currently operating in that location, to function for as long as necessary until the AQS relocation is complete.
3. The detention facility as designed only shows housing on one half of the top floor. Should more beds be desired in the future, this floor could be completed. An alternative with an increased upfront cost, but which could prove more affordable long term, would be to build out the remainder of the floor as an empty shell now, and only providing finishes and furnishings in the future if needed.
4. The currently site plan leaves the east side of the site underutilized, allowing for future expansion opportunities. Should new structures be required, this is an ideal location. If more area is needed than is currently available, the on-grade parking could be condensed into structured parking elsewhere on the site freeing up site area for a larger building footprint.

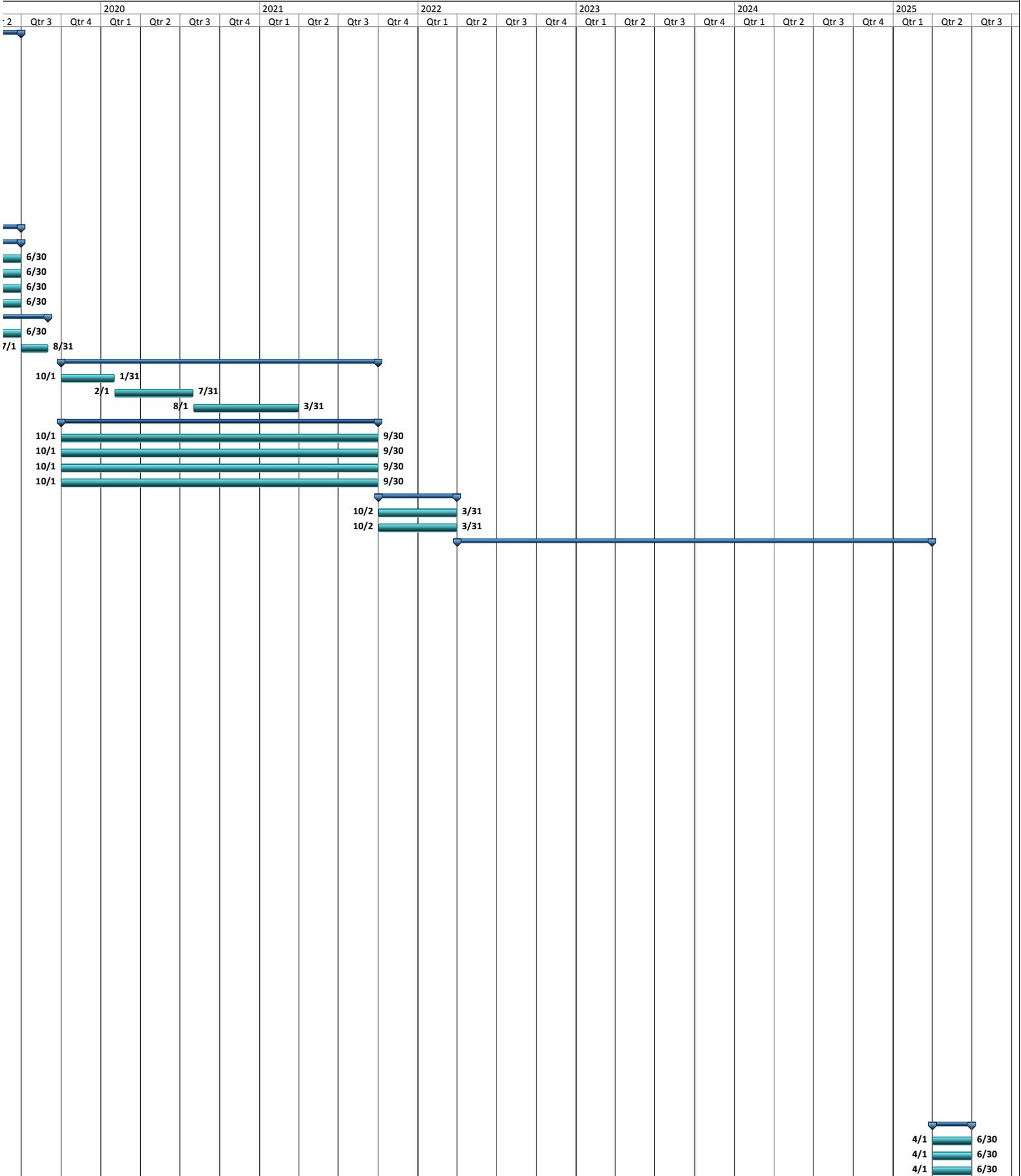
Figure 6-5: PROJECT SCHEDULE - OAHU COM

ID	Task Name	Duration	Start Date	Finish Date	2016												2017				2018				2019			
					Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4				
1	PLANNING	37 months	6/2016	6/2019	[Gantt bar from 6/2016 to 6/2019]																							
2	Architectural Program and Concept Development	19 months	6/2016	12/2017	[Gantt bar from 6/2016 to 12/2017]																							
3	Program Process	19 months	6/2016	12/2017	[Gantt bar from 6/2016 to 12/2017]																							
4	Site Selection	18 months	6/2016	11/2017	[Gantt bar from 6/2016 to 11/2017]																							
5	Site Selection Process	18 months	6/2016	11/2017	[Gantt bar from 6/2016 to 11/2017]																							
6	Site Specific Design	6 months	1/2018	6/2018	[Gantt bar from 1/2018 to 6/2018]																							
7	Master Planning	6 months	1/2018	6/2018	[Gantt bar from 1/2018 to 6/2018]																							
8	Environmental Impacts	28 months	6/2016	9/2018	[Gantt bar from 6/2016 to 9/2018]																							
9	EIS Process	28 months	6/2016	9/2018	[Gantt bar from 6/2016 to 9/2018]																							
10	EISPN	4 months	6/2016	9/2016	[Gantt bar from 6/2016 to 9/2016]																							
11	Draft EIS	13 months	10/2016	10/2017	[Gantt bar from 10/2016 to 10/2017]																							
12	Final EIS	7.5 months	11/2017	6/2018	[Gantt bar from 11/2017 to 6/2018]																							
13	Review and Acceptance of FEIS	3.5 months	6/2018	9/2018	[Gantt bar from 6/2018 to 9/2018]																							
14	Land Acquisition and Entitlements	18 months	1/2018	6/2019	[Gantt bar from 1/2018 to 6/2019]																							
15	Land Acquisition	18 months	1/2018	6/2019	[Gantt bar from 1/2018 to 6/2019]																							
16	Transfer of Executive Order	18 months	1/2018	6/2019	[Gantt bar from 1/2018 to 6/2019]																							
17	Transfer of DOT Land	18 months	1/2018	6/2019	[Gantt bar from 1/2018 to 6/2019]																							
18	Acquisition of Navy Land	18 months	1/2018	6/2019	[Gantt bar from 1/2018 to 6/2019]																							
19	PRU Process	13 months	6/2018	6/2019	[Gantt bar from 6/2018 to 6/2019]																							
20	SELECT DESIGN TEAM	8 months	1/2019	8/2019	[Gantt bar from 1/2019 to 8/2019]																							
21	Develop and Issue RFP	6 months	1/2019	6/2019	[Gantt bar from 1/2019 to 6/2019]																							
22	Select Design Team	2 months	7/2019	8/2019	[Gantt bar from 7/2019 to 8/2019]																							
23	DESIGN	24 months	10/2019	9/2021	[Gantt bar from 10/2019 to 9/2021]																							
24	Schematic Design	4 months	10/2019	1/2020	[Gantt bar from 10/2019 to 1/2020]																							
25	Design Development	6 months	2/2020	7/2020	[Gantt bar from 2/2020 to 7/2020]																							
26	Construction Documents	8 months	8/2020	3/2021	[Gantt bar from 8/2020 to 3/2021]																							
27	Building Permits	24 months	10/2019	9/2021	[Gantt bar from 10/2019 to 9/2021]																							
28	Grading / Drainage Permit	24 months	10/2019	9/2021	[Gantt bar from 10/2019 to 9/2021]																							
29	Demolition Permit	24 months	10/2019	9/2021	[Gantt bar from 10/2019 to 9/2021]																							
30	Foundation Permit	24 months	10/2019	9/2021	[Gantt bar from 10/2019 to 9/2021]																							
31	New Building Permit	24 months	10/2019	9/2021	[Gantt bar from 10/2019 to 9/2021]																							
32	BID AND AWARD	6 months	10/2021	3/2022	[Gantt bar from 10/2021 to 3/2022]																							
33	Bid and Award Package 1: Pre-Release Facility	6 months	10/2021	3/2022	[Gantt bar from 10/2021 to 3/2022]																							
34	Bid and Award Package 2: Detention Facility	6 months	10/2021	3/2022	[Gantt bar from 10/2021 to 3/2022]																							
35	CONSTRUCTION	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
36	Utility Infrastructure Improvements (off-site)	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
37	Electrical	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
38	Mechanical	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
39	Sewer	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
40	Building Construction	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
41	Submittals	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
42	Product / Equipment	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
43	Shop Drawings	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
44	Site Preparation	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
45	Environmental Mitigation	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
46	Demolition	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
47	Earthwork / Site Grading	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
48	Underground	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
49	Foundations	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
50	Utilities (water/gas/sewer/power)	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
51	Construction of Pre-Release Facility	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
52	Superstructure	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
53	Core and Shell	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
54	Building MEP	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
55	Interior Construction	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
56	Construction of Detention Facility	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
57	Superstructure	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
58	Core and Shell	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
59	Building MEP	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
60	Interior Construction	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
61	Paving and Site Improvements	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
62	Parking Lot Paving and Striping	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
63	Access Roads	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
64	Sidewalks	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
65	Fencing and Gates	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
66	Site Lighting	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
67	Signage	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
68	Detention Basin	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
69	Landscaping and Irrigation	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
70	Close-Out	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
71	Punch List	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
72	Inspections	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
73	Certificate of Occupancy	36 months	4/2022	3/2025	[Gantt bar from 4/2022 to 3/2025]																							
74	ACTIVATION / COMMISSIONING	3 months	4/2025	6/2025	[Gantt bar from 4/2025 to 6/2025]																							
75	Building Commissioning	3 months	4/2025	6/2025	[Gantt bar from 4/2025 to 6/2025]																							
76	Occupancy	3 months	4/2025	6/2025	[Gantt bar from 4/2025 to 6/2025]																							
77	Transfer of Offenders to the New Facility	3 months	4/2025	6/2025	[Gantt bar from 4/2025 to 6/2025]																							

Task [Green bar] Milestone [Yellow star] Summary [Blue arrow] Intermittent Task [Blue bar with vertical lines]



MUNICIPALITY CORRECTIONAL CENTER



7

VALUE FOR MONEY ANALYSIS

A Value for Money (VfM) analysis compares the total costs of delivering an infrastructure project using different forms of procurement. Its purpose is to identify which procurement approach for a given project delivers the greatest value for the public sector. VfM is an effective practice to evaluate the traditional Design-Bid-Build (DBB) project delivery approach against Public-Private Partnership (P3) delivery options, including Design-Build (DB); private financing and/or transfer of responsibility for long-term operations, maintenance, and rehabilitation, such as Design-Build-Finance (DBF); or Design-Build-Finance-Operate-Maintain (DBFOM) approaches.

The assessment considers the estimated risk-adjusted costs of delivering the OCCC project using different procurement options that result in distinct financing, ownership, and implementation approaches, and varying levels of private involvement. The procurement approach that results in the lowest cost – lifecycle costs and risks considered – would deliver the most “value for money” and therefore, the most benefit to the public sector (in this case the State of Hawaii).

Performing a VfM analysis is a critical step when evaluating procurement options, and it has already become the standard in several countries where project delivery, through P3 delivery and project finance arrangements, are common. The United Kingdom, Australia, Ireland, New Zealand, South Africa and China have VfM practices that have been developed for at least a decade. In the State of Virginia, the Department of Transportation (VDOT) undertakes VfM analyses for all proposed concessions. In Canada, once a Public Private Partnership has been identified as a potential procurement method for further consideration through the P3 screen, VfM is the determining factor for selecting the preferred method. The decision whether to proceed with a Public Private Partnership is based on the results

of the VfM analysis together with the analysis of program requirements, strategic considerations, and project-specific qualitative, quantitative, and risk factors.

This Value for Money analysis is considered the first step in the process of evaluating the many complex aspects associated with delivering this important facility in a manner that benefits the people of Hawaii. The work to date represents a high-level analysis of a number of possible options for consideration by the State’s financial, legal, and procurement specialists. This report does not offer a recommendation for a specific method of financing or delivery of the OCCC project. Each option presented requires further in-depth study that goes far beyond the limitations of this report and ultimately leads to the definitive solution.

Base Project Design and Construction Costs

In April 2018, capital cost estimates were developed for the project as detailed in Chapter 6 of this report. The estimates included construction costs, design costs, and soft costs, and incorporated values for project management, permitting fees, and contingency. The construction costs used pricing data for Honolulu County construction to estimate the cost of materials and cost escalation over the duration of the construction period. The estimates were based on a four-year design and construction schedule, two years for each activity. The base estimate for construction cost, on which this VfM analysis is based, was \$485 million.

The project capital cost estimate and associated contingency allowances were developed under the assumption that the project delivery option would be Design-Bid-Build. At this stage of project development, however, a full project risk assessment has not been undertaken by the sponsor and it is possible that increases in project cost and schedule duration could affect the project

as it advances through the design, procurement, and construction phases. For the purposes of the VfM analysis the estimate of \$485 million was used, therefore, as a base and further adjustments are made, as appropriate, for each delivery option to reflect the risks retained by the State of Hawaii during project delivery.

Under the DBB option, the State of Hawaii bears the full risk of any changes to cost and schedule during the design process, the risk that bids will come in higher than the engineer's estimate, and the risk of cost overruns during construction itself. Historically DBB project delivery has been associated with increased risk of schedule delays and cost overruns especially in comparison to DB and P3 delivery options where the private partner provides cost and schedule guarantees.

The risk-adjusted cost used in the Net Present Value quantitative analysis, and the basis for those adjustments, are outlined in "Net Present Value" section of this report.

7.1 OVERVIEW OF PROCUREMENT OPTIONS EVALUATED

The first stage of a VfM analysis involves identifying which financing and project delivery options are applicable, given the various legal, financial, and political factors, such as the nature and scale of the project and the fiscal health of the public entity sponsoring its construction and operation. The analysis of financing plan options for developing a new OCCC, summarized in Chapter 5 of this report and included for reference as Appendix D, identified and described options ranging from conventional public financing ("pay as you go," different types of bonds) to alternative financing and public private partnerships. These options were taken into consideration for this VfM analysis and four were selected as valid alternatives for the OCCC project. These four primary options considered are:

1. Design-Bid-Build (DBB)
2. Design-Build (DB)
3. Non-Profit Design Build Finance with Long-Term Maintenance (DBF+M 63-20 - Lease)
4. Design Build Finance with Long-Term Maintenance (DBF+M - Availability Payments)

The following describes and compares these four financing plan options as a first step to identifying which option provides the highest Value for Money to the State of Hawaii. Of importance underlying this analysis is the assumption that the State of Hawaii, via PSD, will retain responsibility for OCCC operations, and therefore the outsourcing of operations is not included in any of the alternative procurement options considered.

Design/Bid/Build (DBB)

The traditional and most common type of procurement in the United States is Design-Bid-Build (DBB), which considers design and construction as sequential phases that are procured separately, with two contracts and two contractors. The DBB method is divided into three phases:

1. Design Phase
2. Bidding Phase
3. Construction Phase

In the first phase, the contracting authority commissions an architecture/engineering firm for the design of the project and the development of the bid (or tender) documents, which will serve as a basis for the bidders' proposals in the second phase, and will guide the execution of construction work in the third and last phase. The architecture/engineering firm is required to work closely with the client (PSD) to ensure they can meet their needs, develop a detailed project plan, and, finally, develop an appropriate list of required activities.

In the second phase, the bidding or tender phase, the tender may be "open" to the participation of any firm believed to be adequately qualified to perform the work, or "closed", if the contracting authority arranges to pre-select a limited number of contractors to participate in the tender. Admitted competitors are required to examine the tender documents and, if the project includes a series of tasks concerning specific activities, disclose them to potential subcontractors, who will be called to submit an offer for their contribution.

The last phase, the construction phase, begins after award of the construction contract. The design plans, possibly finalized by the designer alone or according to variants introduced in the agreement with the contractor, are finalized and the winning bidder can request all the authorizations required by law to start construction.

This project delivery method has the advantage of giving the contracting authority complete control over the design phase and the construction phase. The appointed designer acts as an impartial controller of the offers presented by the contractors and, therefore, the designer's interests coincide perfectly with those of the client (PSD). Moreover, this method discourages the tendency to decrease quotes for pricing, which, below a certain threshold, undermine the quality of the work to be carried out. As the design plans are provided by an impartial entity, competitors will not be able to exclude certain elements from their scope of work if these are deemed necessary for project execution, for the purpose of providing the lowest quote, and winning the contract award. Conversely, any lower offers lacking the necessary characteristics mentioned in the design plans will be penalized. Further

advantages of this method are the transparency of tender operations and the potential to select the competitor who best achieves the trade off between a solid professional qualification and an appropriate cost management.

On the other hand, any technical and qualitative inaccuracies of the design plan are likely to affect the subsequent execution phase. Once the project design is approved, bidders must adapt their proposals to the design provided. Therefore, if the project eventually becomes infeasible within the costs estimated by the contracting authority, there is the risk that the entire tender may be abandoned (with an inevitable waste of time and resources) or that it becomes necessary to extend the time required to complete construction in order to allow the project to be revised in accordance with the economic and performance needs of the contracting authority. This method tends to reduce the possibility of changing plans during construction, unless these are expressly agreed between the designer, whose interests, in the construction phase, coincide with those of the client (PSD) and the contractor.

In most cases the public entity issues bonds to finance the project, and is responsible for maintenance for the useful life of the investment (i.e. facility), and assumes most of the financial risks, depending on the terms and conditions of the design and construction contracts.

DBB, also known as public sector comparator, is the most commonly used project delivery approach in use in the United States, and the primary means for public sector development in the State of Hawaii. This approach does not provide for risk transfer to the private sector and, therefore, any delays in design or construction timelines or cost overruns will have a financial impact on the public sector party. On the other hand, the procurement process for DBB is simple and straight forward, and allows the project sponsor to retain full control over design elements, construction timelines, and other key measures. In addition, the DBB uses traditional municipal finance to cover the construction and other costs of the facilities, and therefore any bond(s) issued for this purpose counts toward the limit of the State's debt capacity.

Design/Build (DB)

In contrast to the traditional DBB procurement commonly used by public entities throughout the United States, the Design-Build (DB) method involves a single process for awarding the design and execution of the work. The awarded contractor takes the name of design-builder (or design-contractor) and is expected to carry out the entire project, from preliminary design to actual implementation. Under the Design-Build method, the design activity falls within the general project implementation and is carried out more so in the interest of the contractor and not the client (PSD). It is common for architecture/engineering firms to compete directly for the award of the contract, and then "subcontract" the execution of the works to specialized companies associated with them. At the same time, if, in general, competitors outsource the design or construction activity, it is also possible for contractors to present professional architects or engineers in their own staff (in-house) to carry out the design activity, so that the selection of proposals becomes easier for the contracting authority.

The main characteristic of the Design-Build method is the potential to achieve greater efficiency in the management of the various project phases: design, construction (or execution), and release of the necessary legal authorizations (from obtaining building and other permits, to utilities certification, to final testing and commissioning). This last aspect is formally unrelated to the procurement option; however, thanks to the coordination of the planning phase with the construction phase, the requests for legal permits may be anticipated to reduce the actual wait times for the necessary administrative checks.

The advantages derived from the adoption of the DB method are due specifically to the efficiencies afforded by the combination of the design and construction responsibilities in the same contract and the commitments to project cost and schedule that the DB contractor makes to the project sponsor. DB project delivery provides the following benefits:

- Alignment of incentives for efficient production of the design to minimize total cost for both design and construction.
- Continuity benefits with one entity responsible for the entire process through delivery of the completed facility.
- Incentive for incorporating innovations in design and in means and methods during construction to minimize total cost.
- Efficiencies in schedule allowed by the ability for certain materials procurement and construction activities to take place during the design period.
- Certainty in cost and schedule afforded to the owner by the commitments made by the design builder. Risks to cost and schedule related to project execution are borne by the Design Builder and the Design Builder is totally accountable for cost, schedule, and quality.

Given the benefits noted above, DB project delivery has been found to provide substantial cost and schedule savings compared to traditional DBB processes. Overall costs have been found to be approximately 6% to 10% lower with savings in unit costs and schedule certainty.

Comparing the two methods, DBB and DB, it is possible to see how the different role of the designer in Design-Build positively influences the quality of the work. This is because the designer is obliged – by contract – to represent the interests of the client (PSD) in the phases of awarding and carrying out the contract. Therefore, the risks of selecting inadequate contractors or performing imprecise work are considerably reduced, especially in the cases when the contracting authority staff may not have the required qualifications for accurate decisions and evaluations. At the same time, the designer is responsible for the actual project feasibility, as it will supervise its execution. The designer, therefore, will be held accountable by the public entity in cases of plan changes during construction related to issues in carrying out the project.

Design-Build-Finance-Maintain (DBF+M) Lease/Purchase

A P3 Concession arrangement is often defined as a long-term contract between a private party and a government agency for providing a public asset or service, in which the private party bears significant risk and management responsibility. It relies on the recognition that public and private sectors each have certain advantages, relative to each other, in performing specific tasks. The responsibilities of the private sector could entail finance, design, construction, operation, management and maintenance of the project. In contracting with private firms, governments must balance their obligations to protect the public and provide for the social welfare with the private firms' need to manage its operations in an efficient and effective manner.

A Non-Profit Design-Build Finance with Long-Term Maintenance (DBF+M) Lease/Purchase agreement is a P3 scenario in which the public agency commissions a single developer to design, build, finance, and maintain the project under a tax-exempt financing structure with a non-profit vehicle. Public sector agencies in the United States may finance capital projects by issuing tax-exempt debt, often making it more cost-effective for public project sponsors to issue debt than their private sector partners. Using this type of debt keeps interest costs low and generates attractive opportunities for both private and corporate investors. One method of reducing the borrowing costs to the private partner is to issue debt through a nonprofit public benefit corporation pursuant to Internal Revenue Service (IRS) Rule 63-20 and Revenue Proclamation 82-26. The nonprofit corporation is then able to issue tax-exempt debt on behalf of private project developers.

This scenario also introduces a "Lease/Purchase" approach, according to which the private sector finances and builds the new facility, which it then leases to the public agency. The public agency makes scheduled lease payments to the private party with the public agency accruing equity in the facility with each payment. At the end of the lease term, the public agency owns the facility or purchases it at the cost of any remaining unpaid balance in the lease.

Design-Build-Finance-Maintain (DBF+M) Availability Payments

In this structure, the government entity enters into an agreement with a private sector party under which it allocates to that party all of the project's duties except for operations. This includes designing, constructing, financing and maintaining the project. In exchange for assuming these obligations, the private sector party is entitled to receive, for a specified period, fees from the end users of the project or payments from the government in the form of availability payments or shadow tolls.

Availability payments are a means of compensating a private concessionaire for its responsibility to design, construct, and/or maintain a facility for a set time period. These payments are made by a public project sponsor (a state DOT or authority, for example) based on particular project milestones or facility performance standards. Availability payments may be structured in a variety of ways. In certain cases, no payments may be made until after construction is complete. Alternatively, they may be predicated on particular construction milestones. Project sponsors may also define how the periodic payments are to be made, and may also set a maximum payment cap based on agreed-to construction and maintenance performance standards. Different from the previous scenario, the State retains ownership of the facility for the duration of the contract.

This approach can take the form of Performance Based Infrastructure (PBI), an innovative approach to capital projects in which the investment, risk, responsibility, and rewards of the project are shared between government and private-sector participants. Design, construction, financing, and maintenance are bundled together into a single project. The development team is the single point of contact for procurement and delivery of all services under the contract. Shifting the financial risk and responsibility for long-term maintenance to the private partner creates a compelling incentive to ensure high levels of performance: both high-quality construction and proactive upkeep of the finished building.

A key difference between DBF+M and other delivery methods is the early integration of maintenance considerations into the design-build process. Incorporating the input of the FM (“Finance” and “Maintain”) services provider throughout procurement and, following award, design and construction, is key to the development of a sustainable, effective building systems solution that considers whole-of-life costs rather than focusing solely on construction-first costs. Long-term building performance is often sacrificed when the lowest construction price option is selected, thereby limiting the FM services provider’s ability to manage maintenance costs effectively. Given the long-term nature of social infrastructure P3 contracts, including the FM services provider’s perspective regarding future maintenance costs, the design discussion emphasizes lifecycle costs in a way that often creates a better balance between upfront and future costs, thereby providing the most cost effective long-term result for the owner.

For further discussion on P3 stakeholders in social infrastructure projects, and consideration of these stakeholders in the project development process, refer to Chapter 5 in Appendix I.

7.2 EVALUATION OF PROCUREMENT OPTIONS

Qualitative Evaluation of Delivery Options

Each of the four delivery options carry with them relative qualities in terms of funding and costs, risks, and project delivery and maintenance. Table 7-1 presents key criteria in each of these three categories, and assigns a rating to each option based on how well it satisfies the criteria. Scores are defined as:

- A. Positive score, satisfies the criteria
- B. Somewhat positive score, moderately satisfies the criteria
- C. Neutral score, minimally satisfies the criteria

The traditional DBB option usually presents the lowest cost to the public agency before adjusting for risk factors, and is usually the most familiar for the public agency when managing procurement according to the existing laws. It also allows the public entity to retain control and influence over schematic design to implement changes during design/construction. The Design-Build option

Qualitative Evaluation of Delivery Options					
Category	Criteria	DBB	DB	DBF + M 63-20 Lease / Purchase	DBF + M Availability Payments
Funding and Costs	NPV of cost to public agency (before risks)	A	A	B	B
	Flexibility in using funding sources	B	B	A	A
	Flexibility in use of future funding, ability to refinance	B	B	B	C
	Impact on State debt limit	C	C	A	A
	Innovation and cost reduction opportunities	B	B	A	A
Risks	Capital Cost Overruns	C	B	A	A
	Lifecycle Cost Overruns	C	C	A	A
	Delays	C	B	A	A
	Procurement Execution	A	B	C	C
	Procurement Legal	A	A	B	B
Project Delivery and Maintenance	Control over facility's design and quality	A	B	B	B
	Adequate maintenance over time	C	C	A	A
	Procurement and project timeline	C	B	A	A
	Responsiveness to agency needs and requests	A	B	B	B

Table 7-1: Ratings, organized by category and key criteria, of each project delivery method.

presents similar grades to the DBB; however it involves a higher level of risk transfer on cost overruns and schedule delays, as well as greater efficiency in procurement and delivery timeline. The two P3 options generally present the highest scores, providing greater flexibility in using funding sources, and greater opportunities for the competitive setting to deliver innovations and cost reductions. Their high level of risk transfer ensures the best cost and schedule certainty as well as control over lifecycle maintenance costs.

Risk Analysis and Allocation

One of the main differences that define specific delivery options is their risk allocation structure. Risks are transferred among stakeholders at different stages of the project, with several opportunities to increase efficiency and long-term value for money. An appropriate risk allocation exercise should consider which stakeholder is best fit to manage certain risks. For example, risks related to political and local legal issues are better managed by the contracting public agency, while construction risks should be allocated to the contractor that is responsible for implementing the project. Risk allocation for each delivery option should be evaluated carefully, as transferring too much risk to the private sector will result in higher risk premiums, making the project costlier and decreasing VfM, while transferring too little risk to the private sector constrains the magnitude of the VfM that can be achieved.

Table 7-2 on the following page shows the typical risk allocation structure for the four delivery options analyzed. In the case of the four options, it is clear from the information in the table that more risk is allocated to the private sector in the DBF+M options compared to the DB, and both the DBF+M and the DB transfer more risk than the DBB option. The DBB option only allows for risk transfer of subcontractors and shared risk for procurement, construction and material availability; all other risks are retained by the public agency. The DB option fully transfers these risks, and the Design risk, to the contractor, and shares a series of risks that are retained by the public agency in the DBB alternative.

The DBF+M options are similar to DB, the main difference being the financing risk. For the Lease/Purchase option, the financing risk is fully transferred to the private sector. For the DBF+M Availability Payments option, this risk is shared, since the private sector is responsible for acquiring financing for construction, and in addition the public sector is responsible for acquiring either funding or financing to make the availability payments. Although in the lease/purchase option the public agency will still need to make payments to the private sector, the annual amounts through the concession period are much smaller compared to the availability payments, which at the midpoint of construction and at construction completion are significant and may require a bond issuance if the public agency is unable to secure the level of appropriations required. Therefore, while financing risk is fully transferred in the case of the lease/purchase option, it is shared for the availability payments option.

Alternative Delivery Option Schedules

A project timeline was developed for each of the alternative delivery options evaluated. These different timelines, which were taken into consideration for the quantitative assessment, are presented in Table 7-3 on the following page.

All four delivery options assume the procurement phase to last for approximately one year. For the following phases, timelines vary according to each delivery option's structure. The Design-Bid-Build option has the latest estimated completion date, in June 2024, due to the sequential procurements and design and construction activities. It is followed by the Design-Build option, with the project expected to be completed by June 2023. It is shorter than the DBB option due to the single competitive procurement process that combines design and construction. The remaining two options are shorter, with an estimated completion date for both in June 2022, because the options leverage early/parallel design work undertaken by proposer teams during the procurement process.

Typical Risk Allocation for Delivery Options					
Risk Category	Risk Description	Risk Allocation			
		DBB	DB	DBF + M 63-20 Lease / Purchase	DBF + M Availability Payments
Site	Land acquisition, latent site conditions, site security, site accessibility.	State	State	State	State
Permits and Approvals	Environmental approvals, utilities (water, wastewater, power, telecom), approvals for complimentary facilities. Loss of schedule and market related efficiency due to approval delays.	State	State	State	State
Hazardous Materials	Flexibility in use of future funding, ability to refinance.	State	State	State	State
Scope	Change in project scope.	State	State	State	State
Legal	Legislation changes, lack of legal regulation, contract changes, contract default.	State	State	State	State
Bidding Market	Issues with bidding process.	State	State	State	State
Funding / Financing	Delays/inability in achieving financing for the project and related costs.	State	State	Contractor	Shared
Procurement	Risk of sudden spike in materials' prices.	Shared	Contractor	Contractor	Contractor
Design	Errors in design criteria, design is not sufficient for its intended purposes or is unable to deliver the contracted services.	State	Contractor	Contractor	Contractor
Construction	Cost overruns and schedule delays during construction due to unforeseen costs, poor planning, etc. Repairs, rebuild, or other processes required due to defective/poor quality construction.	Shared	Contractor	Contractor	Contractor
Material availability	Risk of missing material related to transportation delays, supply issues, etc.	Shared	Contractor	Contractor	Contractor
Subcontractors	Subcontractor failures and/or markups.	Contractor	Contractor	Contractor	Contractor
Labor Availability	Shortage of skilled/unskilled labor.	State	Shared	Shared	Shared
Maintenance	Costs related to maintaining facility operation and in good status.	State	State	Contractor	Contractor
Force Majeure	Risk of a force majeure event preventing the contractor from completing the facilities.	State	Shared	Shared	Shared
Macroeconomic events	Economic events, inflation volatility, interest rate volatility, transportation price volatility.	State	Shared	Shared	Shared
Relationship	Lack of coordination between stakeholders.	State	Shared	Shared	Shared
Social	Risk of community concern delaying or cancelling the project.	State	Shared	Shared	Shared

Table 7-2: Typical risks allocated to the state, the contractor, or both, per delivery option.

OCCC Project Schedule by Delivery Option													
Procurement Option	Activity	2019		2020		2021		2022		2023		2024	
		6	12	6	12	6	12	6	12	6	12	6	12
DBB	Procurement												
	Design												
	Construction												
DB	Procurement												
	Design + Construction												
DBF + M-L/P	Procurement												
	Design + Construction												
DBFM	Procurement												
	Design + Construction												

Table 7-3: Estimated project schedule per delivery option.

7.3 NET PRESENT VALUE EVALUATION

Four sets of cash flow models were developed to evaluate the Net Present Value (NPV) costs for each of the four project delivery options. Each cash flow includes considerations for design, construction, soft costs, and financing costs. This section describes the cash flow evaluation of the options and summarizes the NPV findings for each.

As noted earlier, the cost estimates developed in April 2018 were used for the DB option with adjustments made to cost estimates for the other alternatives based on comparable projects. Therefore, comparisons related to costs are all in reference to the DB base costs.

Capital Expenditures (CapEx)

CapEx includes design, construction, and soft costs, and are based off of the most recent base engineering cost estimate for this project which was developed in April 2018. This estimate was risk-adjusted for each of the project delivery options evaluated. The DBB design cost was adjusted to consider key risks and probability of risk occurrence given the State of Hawaii's limited experience engaging in design for a major new facility, particularly such a large and complex facility as the proposed OCCC. Therefore, the DBB CapEx cost was risk-adjusted with respect to the April 2018 estimate, resulting in a 6.5% difference

between the two estimates (based on past project experience). The DB CapEx did not require additional adjustments: the levels of contingency and schedule flexibility included in the estimate are appropriate with expectations for this type of project delivery alternative based on industry experience.

The CapEx estimated for the two other DBF+M delivery options were adjusted from the base estimate based on reasonable deviations used for social infrastructure VfM analyses and experience from implementation of alternative delivery methods. Key items adjusted included contingency, construction schedule and associated escalation assumptions, and design costs. In addition, DBF+M options include an additional 10% to account for private sector profit for a total difference of 19.9% compared to the base estimate. The cash flow evaluation took into account the year in which each activity took place and allocated costs accordingly. The timing of expenses is particularly important when assessing the project's NPV. Items such as project management cost were spread across the years as needed: five years for the DBB, four years for the DB, and three years for the DBF+M approaches. Table 7-4 provides the CapEx estimates for each of the delivery options after accounting for risk-adjustments, and the corresponding difference compared to the base engineering cost estimate.

Lifecycle Costs

Lifecycle costs take into account annual maintenance costs for the facility's physical plant and major maintenance that takes place every 10 years during the period in which the state owns and operates the facility. Lifecycle costs are critical to understanding the full costs of the project beyond the initial capital expenditure costs. Since lifecycle costs take place over the full term during which the project is financed, the project delivery options that allocate lifecycle cost risks to the private sector have a cost advantage given the common issues of deferred maintenance in publicly maintained assets. To allow for comparison across the four project delivery options, we account for lifecycle costs for a 30-year period during which the initial capital expenses are financed through borrowing or a concession arrangement. Beyond that initial 30-year analysis period, we make no specific calculations, but assume, for the four project scenarios, that the State of Hawaii will continue to own and operate the facility for the remainder of

its useful life, typically 50 to 75 years in total.

The April 2018 report did not include any estimates for lifecycle costs. Instead, lifecycle costs for all four scenarios are based on standard estimates used in cost estimation for construction. Annual maintenance expenses were assumed at 3% of the total construction cost for both the DBB and the DB options, and 2.95% for the DBF+M option (before adding profit). The difference in these percentages is due to a higher rate of growth of operation and maintenance (O&M) costs for the DB and DBB options compared to the P3 options, primarily due to deferred maintenance.

For all alternatives, major maintenance costs are expected to occur every 10 years during the 30-year analysis period. The cost of this maintenance differs by alternative after considering the potential for deferred maintenance under the scenarios where the State of Hawaii is solely responsible for facility maintenance: the major maintenance costs as a percentage of construction costs are 5% lower in the DBF+M options than in the DBB option, and the DB is 3% lower than the DBB. Table 7-5 illustrates the key assumptions of Lifecycle cost calculations for annual operations and maintenance expenses and periodic major maintenance costs.

Risk-Adjusted CapEx		
Option	CapEx (YOE \$ mm)	Percent Difference Compared to Engineer's Estimate
DBB	\$516,846	6.5%
DB	\$485,477	0.0%
DBF + M (AP)	\$582,129	20%
DBF + M 63-20 Lease / Purchase	\$582,129	20%

Financing Considerations

The following section describes the different financing assumptions for each alternative delivery option. The assumptions on interest rates and different loans required for each delivery option are further illustrated in Table 7-6.

Table 7-4: CapEx estimates per delivery option.

Risk-Adjusted Lifecycle Cost Assumptions				
Assumptions	DBB	DB	DBFM 63-20 Lease / Purchase	DBF+M (AP)
Annual Maintenance Expense (% construction costs)	3.0%	No difference	-0.05% compared to DBB due to higher growth rate in O&M costs	-0.05% compared to DBB due to higher growth rate in O&M costs
Major Maintenance Costs (% construction costs)	23%	-2% compared to DBB due to efficiencies generated through the integration of the design-build process	-5% compared to DBB due to low/no deferrals on annual maintenance, keeping maintenance costs low	-5% compared to DBB due to low/no deferrals on annual maintenance, keeping maintenance costs low
Major Maintenance Period (years)	10	No difference	No difference	No difference

Table 7-5: Strategic assumptions of Lifecycle cost calculations.

Design-Bid-Build:

In the DBB option, the State of Hawaii takes on the financing risk for the design, construction, and maintenance of the project. This project delivery scenario is based on the assumption that the CapEx is financed through General Obligation (GO) bond issues that would allow the state to pay back the capital investment over a 30-year term. The 30-year term was chosen to create a scenario that is comparable to the term of borrowing most likely for the P3 Concession and Lease/Purchase Concession options also analyzed. It is recognized, however, that, at present, individual bond issues in the State of Hawaii are limited to a 25-year term and 20-year term is standard—this shorter borrowing period would not affect the overall conclusions of the analysis. The GO bonds would be secured by the State of Hawaii's pledge to use all available resources – including tax revenues – to repay bondholders, and therefore, comes at a low interest rate, a 5.0% fixed rate over the 30-year term. This interest rate was selected based on information provided from State officials on the historic cost of capital and is common for GO bond issuances. Interest rates are subject to a wide range of variation and can be changed substantially within a short timeframe based on economic and financial conditions in Hawaii and the U.S. as a

whole. To account for this uncertainty and the potential of lower or higher interest rates to finance the project, a sensitivity analysis is presented with a 3% and 10% cost of borrowing (see Section 9.1.5). When considering this option for project delivery, it is important to note that the value of this GO bond borrowing would count against the State's debt limit. The State of Hawaii receives the bond proceeds at the beginning of the construction period and the agency starts paying principal and interest by the end of that year. Maintenance costs are paid for as "pay-as-you-go" expenses of the project, which require no debt financing and therefore, no associated interest payments. Lifecycle costs also count towards PSD's budget.

Design-Build:

The financing requirements and assumptions for the DB option are the same as the DBB alternative, where a GO bond debt pays for the design and construction, and the maintenance costs are paid for as "pay-as-you-go" expenses of the project.

DBF+M Availability Payments:

In this delivery alternative, the private sector takes on the financing risk for design, construction and maintenance costs. However, the agency also needs to make availability payments to the private

Financing Cost Assumptions			
Design & Construction	Financing Type	Interest Rate	Count toward Spending Limit?
DBB	30-year fixed rate GO bond	5.0%	Yes
DB	30-year fixed rate GO bond	5.0%	Yes
DBF + M (AP)	Private Placement Bond	9.0%	No
DBFM 63-20 Lease / Purchase	63-20 Tax Exempt Bonds	6.5%	No
Lifecycle Costs	Financing Type	Interest Rate	Count toward Spending Limit?
DBB	Pay-as-You-go	N/A	Yes
DB	Pay-as-You-go	N/A	Yes
DBF + M (AP) - Private Sector	N/A	N/A	N/A
DBF + M (AP) - Public Sector	Pay-as-You-go	N/A	Yes
DBFM 63-20 Lease / Purchase - Private Sector	Line of Credit	6.5%	No
DBFM 63-20 Lease / Purchase - Public Sector	Pay-as-You-go	N/A	Yes

Table 7-6: Assumptions on interest rates and different loans per each delivery option.

sector entity based on performance and completion measures as established in the concession agreement. As such, on the private sector side, the concessionaire issues taxable private placement bonds to cover the CapEx costs. These bonds have an assumed interest rate of 8.5%, 350 basis points above the GO bond rate. The higher cost of capital is attributable to the bonds' taxable nature and the reduced credit quality given the lack of recourse to the State of Hawaii or its finances. However, this financing approach does not impact the State's debt capacity. The lifecycle costs for this alternative is covered through the availability payments made to the private sector entity by the State of Hawaii on an annual basis, plus four commercial loans payable within one year. These commercial loans cover the first annual maintenance cost and each of the three major maintenance costs for the one-year gap before the availability payment is made. The commercial loan interest rate is 9.0%. The analysis assumes that all availability payments from the State of Hawaii to the concessionaire can be paid for as "pay-as-you-go" expenses of the project, which requires no debt financing and therefore no associated interest payments. However, some of the payments are large, particularly those related to payment for construction progress and construction completion, and therefore the agency may need to issue a bond to cover the payments. If so, the financing costs of issuing the bond would be in addition to the financing costs estimated for this option. In either case - whether "pay-as-you-go" or financing through a GO bond, the payments count towards PSD's budget.

DBF+M 63-20 Lease/Purchase:

In this delivery alternative, the private sector bidder establishes a non-profit company (NGO) through which it is responsible for the financing risk for design, construction and maintenance costs of the project. The State of Hawaii would make annual lease payments to the NGO in exchange for the use of the facility during the 30-year period. These payments will accrue as equity and at the end of the concession term, the State of Hawaii will pay the remaining balance of the value of the facility. To pay for CapEx expenses, the NGO issues 63-20 tax-exempt bonds on behalf of the State of Hawaii in its condition as a non-profit regulated under the Internal Revenue Service (IRS) Rule 63-20, whereby a non-profit public benefit corporation (e.g. a 501(c)(3) organization) can issue tax-exempt debt on behalf of a private developer delivering a public project. This loan has a higher cost of capital compared to a GO bond (e.g., 6.5% vs. 5.0%) because although it is tax-exempt, the credit quality is lower since there is no recourse to the State or its finances. When considering this option for project delivery, it is important to note that the bond values do not count toward the State's spending limit. To cover lifecycle costs, the NGO will acquire a line of credit, disbursed every year to pay for annual maintenance costs and major maintenance costs due every ten years. The assumed interest rate for the line of credit is 6.5%. The analysis assumes that all lease payments made by the State of Hawaii to the NGO, and the final payment, or remaining balance, to purchase the asset, can be paid for as "pay-as-you-go" expenses of the

Results of NPV Analysis (r = 5%)				
Option	DBB	DB	DBF+M (AP)	DBF + M 63-20 Lease / Purchase
CapEx (YoE \$)	\$ 516,846,000	\$ 485,477,000	\$ 582,129,000	\$ 582,129,000
Lifecycle (YoE \$)	\$ 1,454,254,000	\$ 1,420,370,000	\$ 1,509,145,000	\$ 1,509,145,000
NPV (r=5%) (2018 \$)	\$ 1,295,471,000	\$ 1,197,058,000	\$ 1,091,247,000	\$ 1,175,266,000
Results of NPV Analysis (r = 3%)				
NPV (r=3%) (2018 \$)	\$ 1,720,327,000	\$ 1,540,730,000	\$ 1,398,389,000	\$ 1,630,459,000
Results of NPV Analysis (r = 10%)				
NPV (r=10%) (2018 \$)	\$ 750,705,000	\$ 725,601,000	\$ 694,020,000	\$ 594,660,000

Table 7-7: CapEx, Lifecycle, and NPV calculations of the NPV analysis.

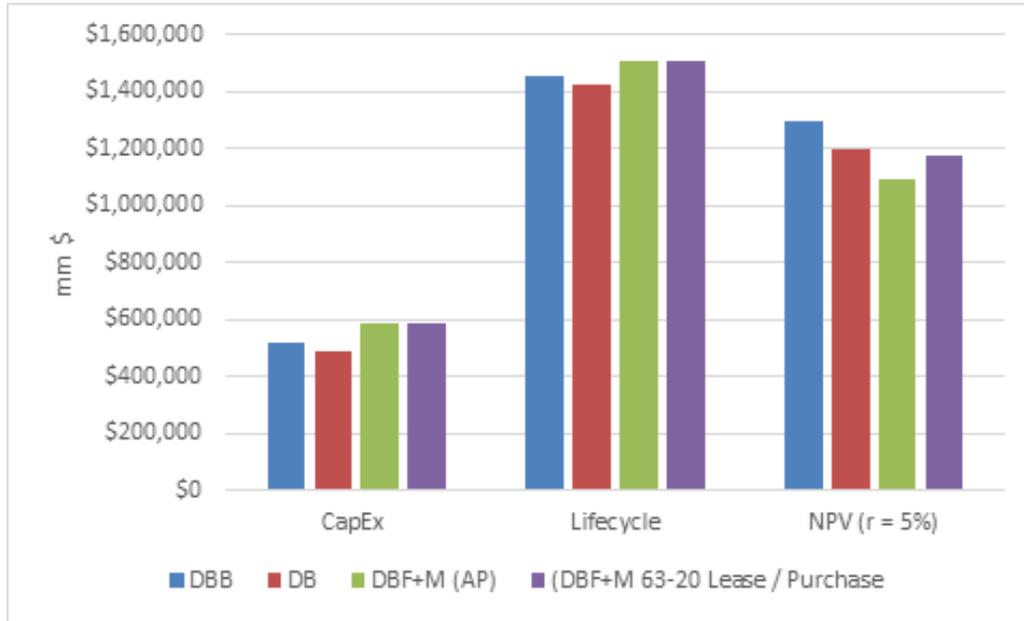


Figure 7-1: Results of NPV analysis.

project, which require no debt financing and therefore no associated interest payments. Unlike the availability payments, the lease payments are evenly distributed through the term of the lease period. The last payment at the end of the lease period to purchase the facility is large, however, and therefore the agency may need to issue a bond to cover the payments. The model estimates the final payment due in 2053 to be \$157 million in nominal terms. This was discounted to present value at the 5% discount rate assumed for the base case. If the State is unable to make this payment, the financing costs associated with issuing a bond to pay for the remaining balance would be in addition to the financing costs estimated for this option, and will count toward the spending limit of the State. “Pay-as-you-go” payments will count toward the spending limit of the State. To account for the uncertainty in interest rates, which historically can be highly variable and somewhat volatile, an analysis is presented with a 3% and 10% base cost of borrowing (see Section 9.1.5).

Net Present Value Calculation

The Net Present Value (NPV) is the present value of cash flows over a period of time. All cash flows were discounted at a rate of 5.0% based on State of Hawaii precedents.

Table 7-7 and Figure 7-1 provide the CapEx, Lifecycle, and NPV Calculations of the NPV analysis. All costs for CapEx and Lifecycle are in Year of Expenditure (YoE) dollars. The risk-adjusted CapEx and Lifecycle costs are higher for the DBB and DBF+M options compared to the engineering cost estimates, and lowest for the DB option. The lifecycle costs are costs for the DBF+M delivery options are slightly higher than the DBB and DB CapEx costs. The NPV results, which incorporate considerations for financing and timeline of design and construction indicate that the DBB option has the highest cost, followed by the DB option and the DBFM 63-20 option. The DBF+M (AP) delivery option is the least expensive once all quantitative aspects of the analysis are considered. Compared to the DBB option, the DB option is 8% lower, the DBF+M 63-20 is 9% lower, and the DBF+M (AP) option is 16% lower.

Discount Rate Sensitivity Tests

The selection of the discount rate can have a significant impact on the results of the net present value results. As noted in the base case, all cash flows were discounted at a rate of 5.0% based on State of Hawaii precedents. Two additional sensitivity tests were conducted to understand the extent to which results change with a higher or

lower discount rate. These have been incorporated into Table 7-7, presenting the results of the NPV analysis using a 3% and 10% discount rate.

7.4 QUALITATIVE CONSIDERATIONS

A VfM analysis extends beyond the quantitative assessment of project costs. Qualitative considerations have a strong influence on outcome of the analysis because there are often substantial qualitative factors that could greatly influence the project's actual performance. These qualitative factors should be considered carefully for the OCCC project.

No legal or financial impediments to pursuing public or private sector financing for jail improvements or expansions were identified during a review of various Hawaii State government documents and annual financial reports. Hawaii's economic indicators for the tourism industry, tax revenues, the construction industry, and unemployment were found to be positive, and according to forecasts developed by the Department of Business, Economic Development and Tourism (DBEDT), Hawaii's economy will continue to show positive growth in the near future.

However, there are some important issues that need to be considered. Although several of the P3 structures outlined in this report may, if successfully implemented, result in positive impacts for the State of Hawaii with respect to managing its borrowing capacity, transferring project delivery risk, and achieving policy goals through performance-based contracting, the novel nature of P3 procurement in the state could pose implementation challenges. The timeline and exact form of the requirements for P3 project delivery in Hawaii that would apply to state agencies and private partners is uncertain. Although the analysis in this report suggests that P3 options may be more cost-effective, on a risk-adjusted basis, than traditional delivery options, there may be delays associated with this process that may not be compatible with the delivery schedule for the OCCC project.

It should be recognized that the P3 procurement process is complex and may pose challenges to

any agency seeking to use these methods for the first time. First time implementation of P3s in certain (other) jurisdictions have been found to require extra time and resources on the part of public agencies for legal, financial, and policy review, coordination with stakeholders, and other key activities. While P3 implementation can provide substantial efficiencies over the long-term, it can also require substantial upfront effort in the first instance where those involved in the public and private sector would be working under a unique framework for P3 and may have limited experience with these types of alternative delivery methods. Implementing the P3 procurement process, therefore, may result in delays and costs that are not contemplated in the quantitative NPV analysis presented in this report.

While the considerations expressed above undoubtedly affect the feasibility of the P3 concession options, there are also qualitative factors that need to be considered for the more traditional DBB and DB options. The DBB is the most expensive option in NPV terms. This is because it is risk adjusted and therefore includes foreseen delays in schedule and associated cost increases as well as a longer construction completion schedule. In addition, the State of Hawaii has limited experience in procuring and delivering the construction of a new facility of the nature and scale of the proposed OCCC, even with traditional procurement methods—the new OCCC is expected to be the costliest facility the State has ever developed. The agency's experience with large projects is also not recent, as its last major building project was the construction of Halawa Correctional Facility, over 25 years ago, and most of the State employees that contributed to the success of that project may no longer be employed by the State. The DBB delivery method requires the public entity to take ownership of the design, and this can represent an important challenge, which can lead to schedule delays. Furthermore, the DBB structure has minimal risk transfer, with a high potential for issues that will become the responsibility of the State of Hawaii.

The remaining option is DB, which is generally less expensive than traditional DBB after adjusting for risk and might be considered the best alternative for the State - it is less expensive than

Qualitative Factors	
Category	Description
Project Cost	Even though the quantitative analysis of the risk-adjusted NPV identified the two P3 methods (“DBF+M Availability Payments” and “DBF+M 63-20 Lease-Purchase”) as the options that would provide the highest Value for Money, there are several qualitative factors that may present themselves, resulting in schedule delays and/or increased costs.
Cost of Capital and Funding Capacity	Funding capacity of the State is impacted under the DBB and the DB method, as the local agency is likely to source funding through loans. This is a possibility also for the DBF+M (AP), but not in the DBF+M lease/purchase option. The cost of capital is the highest for the DBF+M lease/purchase, followed by the DBF+M (AP). There is no difference between the DBB and DB methods.
Procurement	There is no recent public-sector facility development project of a nature and scale equivalent to the proposed OCCC which may pose challenges during the procurement phase. This is generally manageable for the traditional DBB, and slightly more complicated for the DB method. It is, however, quite complex for the DBF+M options. These methods require expertise and a longer lead time prior to the award of the project; however, the longer preparation time is compensated for by faster design and construction by the private sector.
Risk Transfer	Retaining risk as in a traditional DBB configuration allows the State to have maximum control over design and construction; however it must be managed with great care to minimize delays and possible cost overruns. Transferring the design risk to the contractor, as in the case of the DB option, can help contain costs by transferring the risk of cost and schedule management to the contractor. If there are the conditions that lead an agency to adopt a Public Private Partnership delivery method, such as DBFM, most of the risk can be transferred to the contractor, with substantial savings in terms of cost overruns and higher efficiency in maintenance costs.
Value at the end of design life	With high standards for maintenance and life cycle capital investment, the DBF+M options may provide an agency with a facility that has retained a value of approximately 80-85% of the initial investment.

Table 7-8: Qualitative factors requiring consideration during the decision making process.

the DBB alternative and has lower procurement requirements and challenges than the other two P3 concession options. The State would be able to transfer the design risk to the contractor, with generally higher protection against cost overruns than the DBB method. The procurement process is less complicated than the other options, allowing for ease of implementation and management by the State of Hawaii.

Table 7-8 above outlines the main qualitative factors that need to be considered as part of the decision-making process.

7.5 CONCLUSION

This Value for Money (VfM) analysis for the proposed OCCC project is meant to evaluate the suitability of project delivery options in terms of total lifecycle cost, risk transfer, and qualitative considerations. Options evaluated included the traditional design-bid-build project delivery option, also known as the public sector comparator, the Design-Build option, and two Public Private Partnership (P3) options that are well suited for social infrastructure and may be feasible alternatives for this project. These were based off of the construction cost estimates completed in April 2018.

The evaluation included an overview of the project and description of project baseline design and construction costs as included in the April 2018 estimate, followed by a description of all four project delivery options identified as the most suitable options for the OCCC project. The NPV assessment was based on estimated schedules for project delivery for each alternative and risk-adjusted values for CapEx, Lifecycle, and financing costs. All cash flows were discounted at a rate of 5% based on State of Hawaii precedents. This quantitative assessment indicated that the DBF+M (AP) option is the most cost-efficient in NPV terms, followed by the DBFM 63-20 lease/purchase option, the DB option, and lastly the DBB option. A sensitivity test was performed with alternative 3% and 10% discount rate options to evaluate the impacts on the result. While the DBF+M (AP) option is still the most cost-efficient in NPV terms under a 3% discount rate, the DBFM 63-20 lease/purchase option becomes most attractive using a 10% discount rate assumption.

Quantitative considerations take into account additional factors that indicate that the most cost-efficient alternative for the OCCC project may be the DB project delivery option. These considerations take into account the nature, scale and complexity of the proposed OCCC project and limited experience among public agencies throughout the U.S. involving the DBFM procurement processes.

Based on a comprehensive Value for Money assessment, which takes into account quantitative and qualitative considerations, the DB option may be the most efficient alternative to traditional design bid procurement that would be available for delivery of the OCCC project. This option has benefits with respect to risk transfer and increased certainty in cost and schedule once procurement has been finalized, and a record of implementation in the State of Hawaii.

The DBFM options are attractive from a cost perspective assuming that the procuring agency receives the necessary support and assistance to guide it through the negotiating process in a timely fashion along with the project management and oversight skills and resources to overcome the lack of experience with this procurement method.

7.6 NEXT STEPS

Development of a new OCCC will be among the largest and most complex building projects ever undertaken by the State of Hawaii. This will require decisions concerning each phase of the project's development to be reached only after careful and thorough analyses of each aspect of the project delivery process. By virtue of the nature and scale of the project, the decisions to be made involving design, construction, and financing methods to be employed and their implications go far beyond those of more common public works building projects undertaken in Hawaii.

As an example, among the next phase of analyses is to prepare a current project cost estimate. The latest estimate dates to April 2018 and as a result of recent increases to energy and labor costs, interest rates, new tariffs on building materials, among other economic factors, a current estimate of the cost to construct the new OCCC must be prepared. More rigorous analyses of each aspect of the facility's design, operation and maintenance program, including life-cycle cost estimates of major building systems, is also recommended. In addition, determining the willingness of the financial markets to participate in the project and the experience, capabilities, and conditions under which individual firms or teams will participate should also be determined.

This Value for Money analysis is considered the first step in the process of evaluating the many complex aspects associated with delivering this important facility in a manner that benefits the people of Hawaii. The work to date represents a high-level analysis of a number of possible options for consideration by the State's financial, legal, and procurement specialists. This report does not offer a recommendation for a specific method of financing or delivery of the OCCC project. Each option presented requires further in-depth study that goes far beyond the limitations of this report and ultimately leads to the definitive solution.